



No Night Flights

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NNF09 - Written representations for Deadline
Three on noise, night flights and impact

Glossary

ATM	Air Traffic Movement - a take-off, or landing
CAA	Civil Aviation Authority
dB	decibel
DCO	Development Consent Order
EIA	Environmental Impact Assessment
ES	Environmental Statement
ExA	The Examining Authority
KIACC	Kent International Airport Consultative Committee. We use KIACC in this document also to refer to the Committee under its original name – Manston Airport Consultative Committee
L _{Aeq}	Equivalent Continuous Sound Level: all the day noise, or night noise, smoothed out to an even background hum: <i>“the hypothetical steady state sound level that, over a given period of time, contains the same sound energy as the fluctuating sound over the same time period.”</i>
NNF	No Night Flights
PINS	Planning Inspectorate for England and Wales
QC	Quota Count
RSP	RiverOak Strategic Partners Ltd
SMAa	Save Manston Airport Association
TDC	Thanet District Council

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Introduction

1. RSP accepts that, if its proposals are implemented, people living and working along the flight path between the east coast at Ramsgate and the west coast of Herne Bay at Hampton will experience aircraft noise. The official flight path would be a mile wide. This means that a mile-wide swathe, stretching over 23km, of residents, workers, businesses, open space and other facilities will be overflowed by planes as part of this proposal if the DCO is awarded. In addition to the main Herne Bay-Ramsgate aircraft straight line approach path RSP is proposing a number of departure “flight path swathes”. People living, working and using the amenities under those flight paths will also be affected.
2. This means that tens of thousands of people will have to live with the negative impact of RSP’s proposals.
3. RSP’s has failed to identify the full noise impact of its aviation proposal on local people. In this document we set out how:
 - RSP has ignored the noise impact data collected by airport operators during the years when the airport was operational. RSP’s principal Director Mr Freudmann was present at meetings when this data was discussed. RSP’s calculation of the hypothetical noise impact generated by its proposed operation does not reflect the reality of recorded past experience of the actual noise nuisance created by airport operations on that site.
 - RSP’s use of some noise metrics appears flawed. Its assessment of the current ambient noise levels is also suspect given the location of a number of RSP’s noise monitors.
 - The predictions of aircraft noise that would result from RSP’s plans are certainly not “worst-case”. Indeed, RSP’s entire Environmental Impact Assessment is based on a maximum number of annual cargo ATMs that is a fraction of the total number of cargo, passenger and other ATMs that the proposed development would be capable of handling.
 - The basic noise footprints that RSP presents significantly underestimate the number of local residents likely to be affected by this proposal. RSP says that just over 20,000 local people will experience sound levels of 80 dB LAS(max). The correct figure appears to be between 40,000 and 50,000 people.
 - In terms of night flights, there is significant difference between the proposals that were consulted on and the proposal that is now before the ExA. RSP has consistently told the public that it does not want night flights and that added them to its proposal only to satisfy PINS. This repeated assertion leads to serious doubts about the extent to which RSP has assessed the true “worst case” in relation to the night noise nuisance that would be created by RSP’s proposal. If RSP has put in its proposal a random number of night flights simply to satisfy PINS, then the ExA cannot be certain that this reflects the “worst case” number of night flights that a cargo airport capable of handling more than 83,300 cargo ATMs would actually require.
 - RSP’s suggested parameters for the management of its proposed night-time operations fall far short of current Government thinking as to what is acceptable.
 - RSP’s assertions as to the predicted noise impact of its night-time operations falls far short of the guidelines for maximum levels of exposure to aviation noise at night as suggested by the World Health Organisation. At the levels suggested by RSP, the local population would be exposed to what the WHO describes as an unacceptable level of risk to health.

RSP's assessment of the noise nuisance which would be created by its proposal

Overview

4. The evidence shows that the Applicant has failed to pay proper regard to official data on the noise impact of past operations at Manston. RSP's use of some noise metrics appears to be flawed; and the predictions of aircraft noise that would result from its plans are certainly not "worst-case".
5. The basic noise footprints that RSP presents underestimate the number of local residents likely to be affected by this proposal. RSP says that just over 20,000 local people will experience sound levels of 80 dB LAS(max). The correct figure appears to be between 40,000 and 50,000 people.

RSP's chosen noise metrics

6. The proposed cargo airport at Manston will introduce new sources of noise pollution, and significantly increase others. The airport will contribute to noise pollution through "ground noise" – the operation of the freight warehousing, fuel tankers, arriving and departing freight HGVs, taxiing aircraft, dismantling of aircraft, and the comings and goings of airport staff, plane crews and business park tenants. However, the greatest blight for the greatest number of local people will be as a result of the "air noise" from ATMs.
7. Decibels are measured on a logarithmic scale, unlike most other things in our daily lives. This is confusing for the layperson who typically has no understanding of how much louder a 50dB event is than a 40 dB event. Worse still, decibels take no account of the note, pitch, or quality of the sound – 80dB of fingernails on blackboard is treated as if it were the same as 80dB of birdsong.
8. If decibels are an uncertain and misleading indicator of what we actually hear, worse still are measurements of noise impact that are not actuals, but averages. This is the basis of the noise metrics $L_{Aeq, 8h}$ and $L_{Aeq, 16h}$ - respectively the night and day measures of *Equivalent Continuous Sound Level*. This is defined as:
 9. *"the hypothetical steady state sound level that, over a given period of time, contains the same sound energy as the fluctuating sound over the same time period."*¹
10. The Civil Aviation Authority (CAA) says:
 11. *"Critics of $L_{Aeq, 16h}$ argue that:*
 12. *it is difficult to comprehend, being on a logarithmic scale,*
 13. *an equivalent continuous level is not consistent with people's perception of aircraft noise as a number of discrete, noticeable events"*²
14. RSP presents information about its main noise thresholds in L_{Aeq} – a measure that is increasingly criticised as a statistical abstraction which does not reflect what we hear in reality. An L_{Aeq} number may be correctly calculated and statistically valid, but it is of little or no use to the general population. It does not reflect the reality that we experience.

¹ CAA CAP 1506, Survey of noise attitudes 2014: Aircraft (Feb 2017), p69

² CAA CAP 1506, Survey of noise attitudes 2014: Aircraft (Feb 2017), p5 para 1.5

15. An alarm clock is a simple and very clear illustration of how misleading L_{Aeq} is. For most of the 8 hours of night, it is silent, but then it registers 80dB for however many seconds the awakened sleeper takes to find and silence it. The total sound energy from the alarm clock, averaged out over 8 hours, would give it a very low $L_{Aeq, 8hr}$ reading. If the sleeper heard that very low level of average alarm clock noise, it would not wake him or her up. However, the single noise event when the alarm goes off will wake the sleeper, exactly as it designed to do. This is as clear an illustration as you could wish for that, by itself and in an environment in which there are few rather than constant noise events, L_{Aeq} is not a meaningful indicator of noise nuisance.
16. As a second example, if Concorde were still in service, one Concorde flight going over every four hours is the L_{Aeq} equivalent of four hours' of non-stop noise from Boeing 757s flying overhead at a rate of one every two minutes. One Concorde and 120 757s going over do not in any way equate to the same noise experience to whoever is under the flight path. It is not sustainable for RSP to attempt to rely on L_{Aeq} as the key measure of the noise nuisance that its proposals will inflict on local residents. L_{Aeq} forecasts do not give the local community a clear idea of what is being proposed and its likely impact on us. Averaging out the noise of 26,469 flights a year will produce a low L_{Aeq} number. However, this will in no way reflect the impact of each of those separate flights on someone under the flight path who is overflown 70 to 80 times in a day.
17. RSP's contours for levels of noise at which there would be significant adverse effects are small and centred on the airport (RSP's figures 12.4 to 12.7). In reality, the contours are large, and extend out from either end of the runway, over towns and villages, as shown in Appendix A to this document. RSP forgets that we have lived through fifteen years of commercial operations at the airport. The average noise of the small number of flights that operated then would have been a fraction of the average noise levels that RSP is suggesting its proposed operations will produce. However, what residents experienced was the actual noise of 747-400s arriving and departing, giving rise to thousands of complaints a year about noise. Those complaints came from residents in the very west of Herne Bay and the very east of Ramsgate, areas untouched by RSP's theoretical average noise contours. This demonstrates clearly that L_{Aeq} does not capture the real noise nuisance experienced by the local population.
18. The UK's Aviation Policy Framework explicitly recognises that L_{Aeq} alone is an inadequate measure of the noise nuisance that people suffer from airports and aviation:³
19. *"The Airports Commission has also recognised that there is no firm consensus on the way to measure the noise impacts of aviation and has stated that this is an issue on which it will carry out further detailed work and public engagement. We will keep our policy under review in the light of any new emerging evidence."*
20. *"Average noise exposure contours are a well-established measure of annoyance and are important to show historic trends in total noise around airports. However, the Government recognises that people do not experience noise in an averaged manner and that the value of the L_{Aeq} indicator does not necessarily reflect all aspects of the perception of aircraft noise. For this reason we recommend that **average noise contours should not be the only measure used** when airports seek to explain how locations under flight paths are affected by aircraft noise. Instead the Government encourages airport operators to use alternative measures which better reflect how aircraft noise is experienced in different localities, developing these measures in consultation with their consultative committee and local communities." [Emphasis added]*

³ Aviation Policy Framework 2013

21. In March 2016 the Civil Aviation Authority published CAP 1278. That report says:
22. *"With regard to night noise and sleep disturbance, there is growing recognition that average indicators such as L_{night} are insufficient to fully predict sleep disturbance and sleep quality and that use of number of noise events (L_{Amax}) will serve to help understanding of noise-induced sleep disturbance."*
23. L_{max} is a more useful measure for those who have to live with the debilitating effect of noise pollution. It measures the maximum sound pressure level occurring during a certain period of time or during a single noise event. L_{max} can identify serious noise problems arising from short-lived single noise events, which are not picked up by L_{eq} . This is important. An L_{eq} measurement can suggest theoretically that there is a tolerable level of noise when the experience on the ground is very different. After all, noise that is loud enough to (say) stop conversation is noise that is having an impact on the people living through it.
24. This is clearly relevant to RSP's proposals. Actual experience of airport operations at Manston demonstrates that the local population found an average of 550 cargo ATMs a year (plus a small number of passenger flights) intrusive enough for them to submit written complaints. RSP is proposing a development that will allow for between 17,100 and 83,300 cargo ATMs, plus additional passenger, scrappage and general aviation flights. RSP contends that the average noise of these flights will not be an issue for the local population, even though these flights will include many individual noise events of over 80dB L_{Amax} . When the local population has already demonstrated that the noise of 500 or so flights was not supportable, it is untenable for RSP to claim that, when one considers the average noise, the noise of more than 83,300 flights would be supportable.

Actual noise data relating to previous operations at Manston Airport

25. Noise from previous aviation operations at Manston was monitored for extended periods of time and reported to the airport consultative committee⁴, KIACC, via the local authority. The noise monitors were professionally maintained, calibrated and positioned strategically at the east and west ends of the runway, fixed for much of the time to the roof at Clarendon House School in Ramsgate and placed for a period close to the St Nicholas roundabout. NNF has extracted the results recorded by the noise monitors at either end of the runway. We have summarised some of that information in an Excel spreadsheet.⁵ The records show noise levels in the upper 90s and into the low 100s for dB L_{Amax} at these two locations.
26. The ExA is requested to consider the records of KIACC⁶ which show that the Committee considered this detailed data, together with a regular flow of complaints from the public about noise nuisance. The KIACC minutes cover, roughly, the period from 1999 to 2013. RSP's Mr Tony Freudmann attended many of these meetings in the early years as a representative of the airport operator Wiggins.
27. In 2010 KIACC received a copy of a study commissioned by the operator Infratil from Bickerdike Allen and Partners.⁷ The study was in support of Infratil's bid to introduce scheduled night flights. This study analysed the then current noise contours in some detail and extrapolated the likely noise impact in 2018, should the application for night flights be permitted. A subsequent review commissioned by Thanet District Council from Bureau

⁴ The Committee was known initially as the Manston Airport Consultative Committee (MACC) and later as the Kent International Airport Consultative Committee (KIACC). For ease, we will refer to it in this document as KIACC

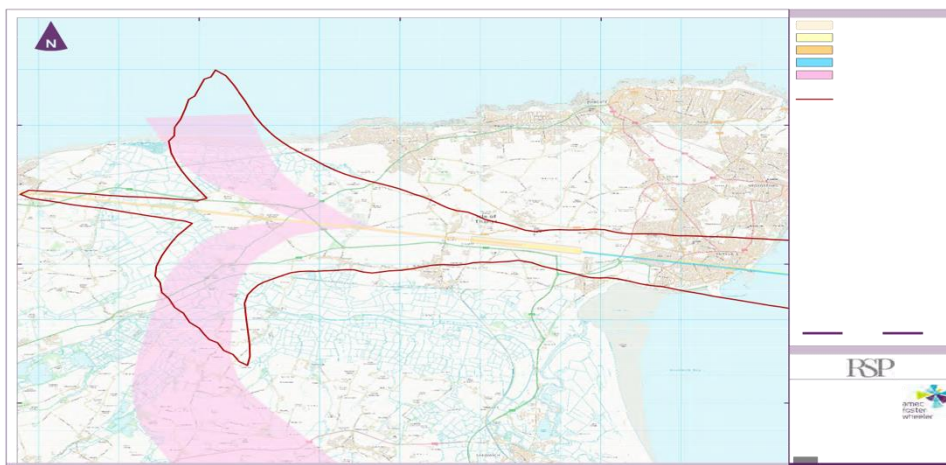
⁵ Sample of noise events reported to KIACC while Manston was operational – NNF Excel spreadsheet

⁶ Available in full on request

⁷ Bickerdike Allen Partners – Manston Airport Aircraft Night Noise Assessment Report - September 2010

Veritas⁸ suggested that the Bickerdike Allen work had understated the scale of the noise impacts by overlooking noise levels experienced in summer and when bedroom windows are opened, and by setting arguably excessive limits for what would constitute an acceptable level of noise. The Bureau Veritas review otherwise endorsed the way in which Bickerdike Allen had gone about its calculations.

28. The noise monitor data that recorded actual operations together with the Bickerdike Allen study are important because they reflect real-time data on the actual noise impacts on the Thanet, Canterbury and Dover districts from large freighters, including aircraft of the type now being proposed by RSP (Boeing 747-400 and Airbus- A370). It is instructive to compare the Bickerdike Allen assessment with that which forms the basis of RSP's EIA and ES. Initial comparisons suggest strongly that RSP has underestimated the adverse noise effects of its aviation proposal.
29. At 12.7.55 of the EIA the Applicant theorises that in its "worst case" year 20, just 10,139 dwellings will be exposed to maximum noise levels in excess of 80 dB LASmax. It sets them out on a map.



30. In contrast, working with actual noise measurements, Bickerdike Allen reported that nearly 31,000 people (in 14,299 dwellings) experienced noise impacts in excess of 85dB SEL when Boeing 747-400 aircraft used Manston's Runway 10 (easterly). When the same aircraft landed using the westerly runway (Runway 28), 18,802 people in 9,027 dwellings were exposed to noise levels over 85dB SEL.
31. It may be that there will be some overlap between the dwellings exposed to noise levels of 85dB SEL from the operations at the east of the runway (14,299 dwellings) and the dwellings exposed to noise from the operations at the west of the runway (9,027 dwellings) as some dwellings will hear the arrival and departure of aircraft whichever direction they are heading in. However, the total number of dwellings which Bickerdike Allen said were affected by noise levels over 85dBSEL – a noise level that is higher than the one chosen by RSP - is clearly going to be many more than the 10,139 suggested by RSP.
32. The Applicant has chosen to present its figures in terms of households rather than people. Applying the occupancy rate used by Bickerdike Allen to RSP's total number of dwellings affected by noise in excess of 80dB LASmax, the numbers of people that RSP says will be affected would be 21,981 people. By contrast, Bickerdike Allen calculated that there would be an impact on 31,000 people (east) plus 18,800 people (west), minus (as we say above) a figure to account for those people close to the runway who suffer noise nuisance whichever

⁸ Manston Airport night noise assessment review – Bureau Veritas November 2010

the direction of operations. It must also be taken into account that Bickerdike Allen calculated that this much higher number of people affected would also be affected at a sound level that is 5dB higher than the one used by RSP.⁹

33. Whilst the metrics used for absolute noise are not identical between the two calculations, that small difference between metrics seems an implausible explanation for such a huge difference between the two results. RSP's estimate suggests that 21,981 people would be affected by 80dB LASmax. Using the Bickerdike Allen calculation that was based on actual noise records, we can see that around 50,000 people would be affected by louder noise events of 85dB SEL. Bickerdike Allen's assessment – even if it has to be discounted a little to take account of people living in line with the centre of the runway who might be included in the westerly and the easterly totals – is therefore more than double the number of people exposed to significant noise nuisance than that suggested by RSP. The table below is taken from the Bickerdike Allen report.

34. *Table 1: Areas and population/dwellings counts for aircraft noise footprints (dB SEL)¹⁰*

Operation	Level	Boeing 737-800			Boeing 747-400			McDonnell Douglas MD-11		
		Area, km ²	Population	Dwellings	Area, km ²	Population	Dwellings	Area, km ²	Population	Dwellings
Approach Runway 10	85	4.9	618	311	14.6	2883	1347	6.2	688	337
	90	1.5	45	32	5.3	667	331	1.8	45	32
	95	0.5	0	0	1.9	45	32	0.6	0	0
Departure Runway 10	85	11.5	17740	8062	20.5	30903	14299	11.1	14722	6704
	90	5.4	2168	1067	8.0	9059	4100	5.4	1089	531
	95	2.0	82	40	3.1	164	79	2.5	129	61
Approach Runway 28	85	4.9	11310	5396	14.6	18802	9027	6.2	11882	5696
	90	1.5	3660	1665	5.3	11669	5568	1.8	4836	2253
	95	0.5	68	29	1.9	5689	2598	0.6	68	29
Departure Runway 28	85	11.6	1941	944	20.5	2647	1250	11.2	1938	944
	90	5.4	625	313	8.1	974	482	5.4	699	346
	95	2.0	108	50	3.1	219	117	2.5	162	86

35. Bickerdike Allen assume runway usage as 33% easterly (Runway 10) and 67% westerly (Runway 28) for both arrivals and departures for 2018. This was judged consistent with the runway utilisation observed for 2009.
36. The picture of large freighter aircraft noise footprints which emerges from the official data recorded under TDC's auspices corresponds with the Bickerdike Allen analysis. The monthly noise monitor reports gave precise readings for each arriving and departing aircraft. They also noted the noisiest top twenty arrivals and departures each month. The noisiest events related to movements by the large freighters (then the Boeing 747-200 and Douglas DC-8 62F). The results were expressed in terms of the Lmax dB(A) level, i.e. the maximum sound level 'A weighted' recorded as the aircraft overflies; and the SEL value (the specialised index in which the sound measuring device computes a value that is equivalent to the noise level with all the sound energy occurring in one second). The Excel spreadsheet showing entries of over 100dB Lmax is being sent alongside this submission as one of the relevant reference documents.

⁹ In assessing the Bickerdike Allen report, Bureau Veritas considered that 80 dB(A) SEL would be a more appropriate threshold of significance when calculating the noise impact on local residents at night. Bureau Veritas endorsed the assessment of Bickerdike Allen about the number of people who would be disturbed by night flights and said: "departures to the east on runway 10 will affect the greatest number of people, i.e. those living in the densely populated areas of Ramsgate. 80 dB(A) SEL contours have not been calculated but the populations predicted to be within the 85 dB(A) contour by such departures ranges from 14,722 for MD11 departures, up to 30,903 for the Boeing 747-400. This is a significant number of people."

¹⁰ Bickerdike Allen Partners – Manston Airport Aircraft Night Noise Assessment Report - September 2010

37. *Table 2: Typical Noise Levels recorded at the noise monitor at Clarendon School, Ramsgate*¹¹

Aircraft	Arrival (Lmax dBA)	Departure (Lmax dBA)
Boeing 747-200	93.7	87.7
Douglas DC-8 62F	93.0	92.0

38. Aircraft using the airport also included less noisy aircraft than the craft recorded above. This had the effect of reducing the average monthly readings. The table below shows monthly average readings in 2003 from the noise monitor at Clarendon House School and the one at St Nicholas in Average Lmax dB(A):

Clarendon House	St Nicholas
91.3	81.8
91.5	86.1
90.6	79.9
89.1	84.3
90.0	78.1
89.0	86.9
90.5	75.7
88.9	83.7
90.0	75.9
88.7	82.3
90.7	
90.1	

39. Given the calculations by Bickerdike Allen above about the number of dwellings that will experience noise nuisance of 85dB SEL from operations at Manston, RSP's statements about properties exposed to the 60dB LASmax figure are similarly difficult to reconcile with historical noise data. RSP says:
40. *"In Year 20 (Figure 12.13), on an average night approximately 20,874 dwellings will be exposed to 1 event or more in excess of 60 dB LASmax, 16,755 of those dwellings will be exposed to 2-4 events in excess of 60 dB LASmax and 160 of those dwellings will be exposed to 5-9 events in excess of 60 dB LASmax."*

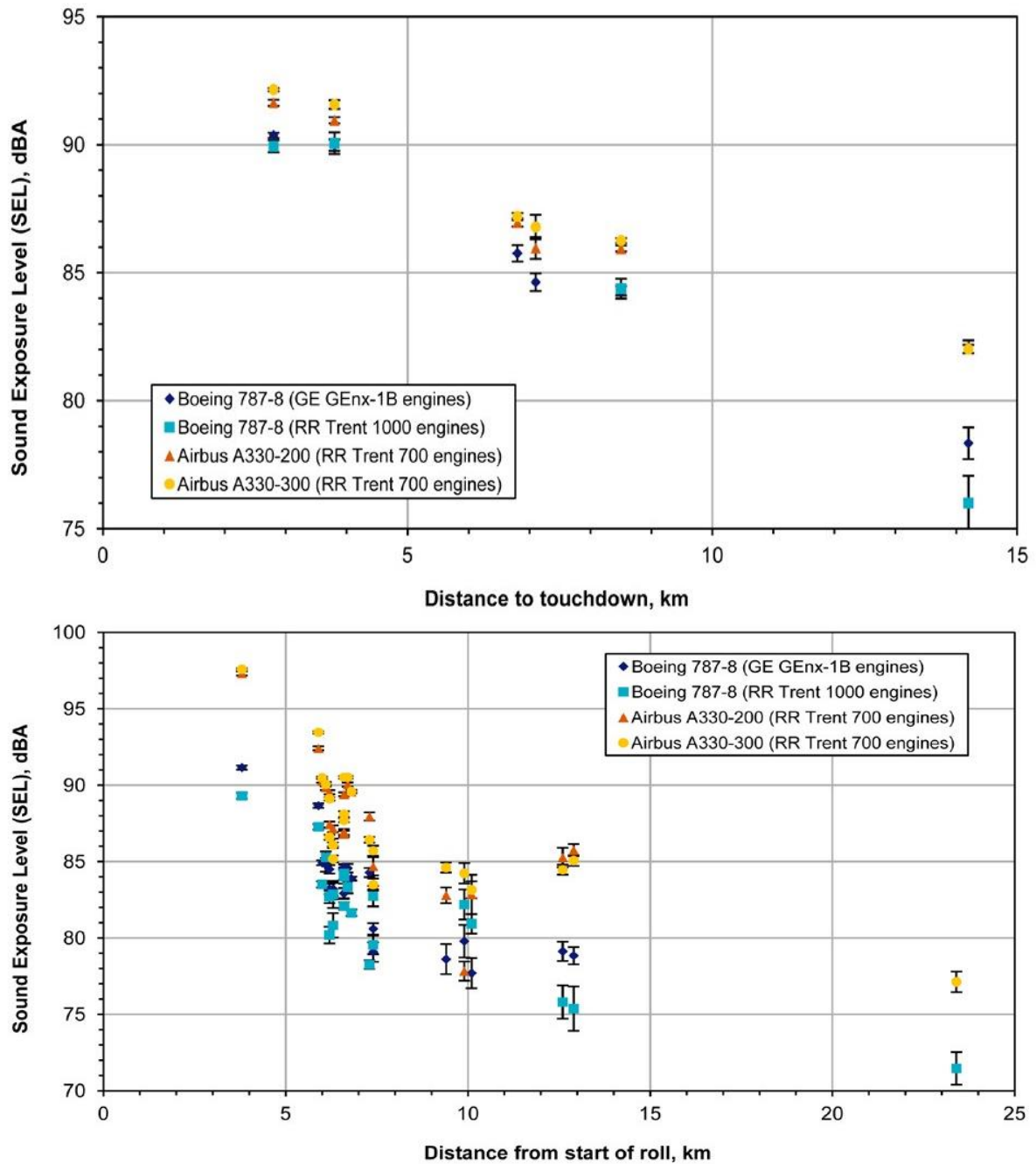
Further doubt is cast on RSP's estimates by looking at published CAA data. This reports noise data for the first 17 months of Boeing 787 operations at Heathrow airport.¹² These graphs appear to show that, even for new generation "quieter" airliners, the noise foot print may be expected to create noise levels of 90dBA (SEL) at 4km from touchdown. Applying that distance to Manston for arrivals brings into that 90dB SEL noise envelope very nearly the entire length of the town of Ramsgate and tens of thousands of residents as well as many other smaller local settlements. Similarly, departures over Ramsgate would create noise levels of between 80dB SEL and 90dB SEL all the way to the coast.

¹¹ Extracted from the noise event records submitted to KIACC – see footnote 5 above

¹² CAA 2014: CAP 1191

41.

Figures: Comparison of Boeing 787 and Airbus A330 arrivals and departures (SEL)



42.

The discrepancies are also striking when RSP's predictions for the averaged noise contours belovod of official noise mitigation plans and compensation arrangements are considered. RSP calculates the number of dwellings exposed to different averaged night-time noise levels (dB LAeq,8h). Bickerdike Allen also calculated averaged noise levels at night for areas close to Manston airport. Bickerdike Allen assumed 3,009 night-time ATMs p.a. (approx. 8 per night) and calculated the impact as follows:

Level	Area, km ²	Population	Dwellings
48	14.4	13443	6386
51	8.5	8528	3964
54	4.9	2272	1088
57	2.8	548	318
60	1.6	0	0
63	1.0	0	0
66	0.7	0	0
69	0.4	0	0
72	0.3	0	0

43. It will be seen from the historical data produced by Bickerdike Allen that over 1,000 dwellings and their occupants are very likely to be exposed by the Applicant's proposals to night time noise annoyance exceeding SOAEL – the level at which a significant adverse effect in terms of Government Noise Policy is recognised and compensation/mitigation normally required. However, RSP's environmental assessment declares that just 225 dwellings will be above the night-time SOAEL of 55 dB LAeq and that "*no significant effect has been identified as a result of maximum noise levels from aircraft at night*". **This is not credible.**

Photos of planes flying over Ramsgate

44. The reality of the situation, which the ExA will be able to see for itself on the site visit, is that planes approaching from the east cross the harbour arm, about 4km from the runway, at a height of 289 metres. Aircraft descend from there at roughly 50m per kilometre as they approach the runway. That descent takes them across the length of Ramsgate – a densely populated residential town. The topography of the town is such that the land rises between the sea and the runway, further reducing the distance between the descending aircraft and the residential buildings below. The noise impact on the town is significant.





6. Flats off King
Street, Ramsgate



Failure to establish to establish a realistic “worst-case”

45. As we highlight in our overarching submission, NNF01, there is no evidence that the Applicant has identified and elaborated a realistic “worst-case”, where key factors and drivers of the environmental impact of its proposal are considered singly and in combination across a range of scenarios. Instead, RSP has based its environmental assessment and its DCO application on what it says it considers commercially probable. This renders RSP’s environmental assessment unsafe and unfit for purpose. It falls short of the standard required by the legislation.
46. RSP’s environmental assessment assumes that the ‘worst case’ is its business prediction for year 20 in 2039. RSP’s environmental assessment pays no attention to the physical capacity of the proposed development (i.e. 83,220 freight ATMs plus passenger flights, plus scrappage flights and general aviation flights) and the potential impact of that capacity of the airport were ever to operate at full capacity. In addition, RSP is seeking no caps on its use of the site should the DCO be awarded. This means that RSP would be entitled to use the airport’s built capacity to its fullest extent should market demand ever materialise. No EIA and no ES have been presented for this “worst case”, which is, of course, many multiples the size of the limited “worst case” that the Applicant says that it has assessed.
47. Whilst the Applicant may be correct in supposing it improbable that the freight market could ever demand the full physical capacity of this proposal it is also implausible that ‘worst-case’ is RSP’s business prediction for year 20 in 2039. What impact would a 10% underestimate have across RSP’s EIA and the noise compensation contours generated by that level of usage? Robust and systematic scenario planning is needed, in which plausible combinations of possibilities are considered which could result in greater demand for underused airport capacity than the Applicant’s current market judgements predict. It would be a failure of the DCO process were the ExA to award the DCO on the current ES knowing that full use of proposed development would inflict on the local area, population and economy an environmental impact that is many times that which was presented in the EIA and considered by the ExA.
48. The ExA should require the Applicant to produce an EIA which reflects the “worst case.” If the ExA is minded to grant the DCO, then it should also apply robust worst-case scenario analysis to any proposed limits on ATM caps or night-time flying to confine the Proposed Development within the parameters which have been implicitly requested by the Applicant in its EIA and also assessed as part of that EIA. Local experience shows that any S.106 Agreement between the operator and TDC will be at the mercy of commercial and political pressures and subject to re-negotiation in the future. The most effective cap on the potential environmental impact of this proposal would be a Government refusal to allow for a higher number of ATMs than has been properly assessed in the Environmental Statement and a refusal to allow the Applicant to develop greater airport capacity than has been properly assessed in the EIA and that is greater than the capacity that is strictly required.
49. The applicant should also substitute realistic “worst-case” forecasts for its optimistic speculations about other issues, such as the aircraft types that will be in use in 2039. The applicant claims in Chapter 12 of the Environmental Statement that its predictions are *“robust worst-case” in assuming that future generation aircraft will produce the same noise as today’s equivalent aircraft*. However, The Applicant then reduces its predictions of LASmax noise impact in year 20 to take account of its hopes that cargo operators will use quieter aircraft in the future.
50. The Applicant should also substitute realistic “worst-case” forecasts for its optimistic speculations about airspace approvals from the CAA and ICCAN; the actual split of runway

usage that can be achieved¹³; demand for passenger ATMs; and the need for Public Safety Zones¹⁴. Each of these has significant implications for RSP's calculations about environmental and socio-economic impact as well as profitability, and thus the viability of the entire project.

51. RSP's considerable underestimation of the noise impact likely to result from its proposal could be the result of several failings. All should be examined closely by the ExA. The ExA should question RSP about its failure to pay proper regard to relevant historical data on aircraft operations at the site to help RSP to identify and assess the "worst case", as the law requires, for example, failing to:

- cross-check theoretical noise footprints against those actually produced by identical or comparable aircraft in the past
- ensure that predictions about runway usage were informed by the KIACC historical usage data, which in turn reflects unavoidable features of the landscape and setting
- assess properly its predictions for aircraft type and the proportion of ATMs expected to fly during the night (see Volume APP/5.2.2 Chapter 16 and Appendix 3.3) so to take account of what past operations suggest about market preferences and demands for heavy cargo planes to operate at night
- consider the evidence of actual community disturbance from the years of complaints submitted to the official KIACC, complaints that demonstrate that people from the east coast of Ramsgate to the west coast of Herne Bay were woken by night flights into and out of Manston and were also troubled by daytime noise
- take into account in its assessments of "worst-case" noise impact the consistent record of business failure at Manston and the evidence of consequent pressure on airport operators to overturn s106 agreements on night-time use¹⁵.

Failure to establish a robust base case for local ambient noise

52. RSP has made use of unrepresentative and/or biased sources for establishing ambient noise "discounts". Oral representations will be made on this topic. In brief, NNF's concern surrounds the selection of sites for establishing baseline ambient noise monitors for RSP's EIA and hence RSP's ability to "discount" net aircraft noise impact predictions. NNF's findings are that:

- most of the monitors used for RSP's EIA were located in the gardens of dedicated lobbyists for return of aviation at Manston. Such locations are clearly not neutral locations and it would not be safe to assume that readings from these monitors reflect the normal level of ambient noise
- at least some of the monitors appear to have been sited adjacent to highly localised sources of ambient noise¹⁶.

¹³ The official records held by the Kent International Airport Consultative Committee show the actual split of runway usage over a period of years. Approximately 70% of aircraft overfly Ramsgate on landing and take-off over Herne Bay – reflecting the predominant south west winds. RSP's claim that it can significantly reduce the number of landings over Ramsgate is not borne out by past experience

¹⁴ A "worst-case" of a number of ATMs only a few percentage points above the applicant's prediction would require the construction of Public Safety Zones (PSZs) impacting significantly on residential streets in the Nethercourt Estate and the approved Manston Green development of 785 dwellings. The possible costs of acquiring that land and compensating residents and the developer of Manston Green have not been assessed, even as a "worst-case".

¹⁵ It is instructive to read the references in the KIACC minutes to Manston airport operators seeking to persuade successive members of the committee of the imminent advent of "newer and quieter aircraft" that will make night flights acceptable to residents. We can provide this information on request

53. This crucial part of the noise impact assessment falls short of the appearance of fairness and objectivity and raises substantive doubts about the reliability of RSP's metrics.

Use of spurious noise metric

54. RSP dismisses as insignificant aircraft noise levels at night in excess of 80 dB LASmax unless the average number of noise events during the night above this level is already at least 18¹⁷. In short, the Applicant has created a double test for significance. First, the noise has to exceed 80 dB LAS(max). Second, it has to happen at least 18 times a night.
55. The absurdity of this second test can be gauged by considering that 80 dB LASmax is usually described in decibel charts as the noise produced by an average alarm clock ringing close to the sleeper. RSP claims that its 'awakening' metric is "*informed by emerging best practice and research into aircraft induced sleep disturbance, undertaken by Basner et al (2006)*". The only published work which appears to be identified by this reference does not support the author's central contention, nor does the Government appear to have accepted this 18+ "awakening metric" as a basis for assessing aircraft noise disturbance at night. The World Health Organisation does not in any way support the metric used by RSP, recommending instead a limit of 40 dB L_{night outside} between 2300 and 0700. We have found no evidence to support the RSP claim that 17 noise events a night of more than 80dB LASmax will have little or no impact on those exposed to such a night noise regime. We say more about this in the night flight section below.

¹⁶ For example, the monitor in Tothill Street was placed in a property adjacent to two giant conifers which frequently attract large flocks of very noisy birds: though the report for the site mentions birdsong it fails to disclose the unrepresentative and distorting effect of selecting this position in Tothill Street nor its unsuitability as a guide to ambient noise in that part of Minster. Similarly, one of the monitors in Herne Bay was placed on a narrow strip of land between the railway line and the A299. In contrast, there were none in the more tranquil areas of the town that are also directly under the flight path. There are similar concerns about some of the other sites and most if not all lack the appearance of fairness.

¹⁷ We deal with this below in the section on night flights and RSP's reliance on the work of Basner

RSP's proposed night flight regime

56. RSP's most recent Noise Mitigation Plan includes its proposals for managing night flights. RSP proposes a Quota Count (QC) system as its sole management tool for night flights. RSP does not propose any limit on the number of ATMs during the night, making RSP's night flight regime entirely open-ended in favour of the developer.
57. RSP's proposed night time flying regime is as follows:
- A Quota Count limit of 3,028 QC points a year
 - A range of QC ratings from Exempt to QC16. RSP counts aircraft whose noise data is rated under 84EPNdB as exempt. Such aircraft are not counted in any way in RSP's proposed night noise regime, neither are emergency flights or humanitarian flights
 - Aircraft rated QC16 or 8 cannot take off or land during the night period. Aircraft rated QC4 and under will be allowed
 - At 1.4 of the Noise Mitigation plan, RSP suggests that no aircraft will be allowed to take off or be scheduled to land during the night time period unless it has provided the information that would allow RSP to know its QC rating. No mention is made of how unscheduled landings will be treated during the night time period.
58. Residential properties with habitable rooms within the 63dB LAeq (16 hour) day time contour will be eligible for a payment of £4,000 towards noise insulation. Residential properties which are not eligible under the above criterion but which have bedrooms within the 55dB LAeq (8 hour) contour will also be eligible for this payment.
59. RSP says in its Noise Mitigation Plan that "night" is 2300 to 0700. However, at 3.3.283 of its Environmental Statement RSP says:
60. "As outlined above the normal operating hours, or 'daytime', will be 07.00 to 23.00, but with limited exceptions during a shoulder period from 06.00 to 07.00 for certain passenger flights departing to Europe or arriving from the United States of America."
61. It is entirely unclear whether this shoulder period is part of the night to which the QC limit applies or whether RSP is using it to enable the operator to have scheduled night flights that will not use up its annual QC limit. The relationship between this statement and the Noise Mitigation Plan is unclear. RSP needs to provide clarity on this.

RSP's use of the Basner report

62. In its ES, RSP continues to rely on the work of Basner to justify its assessment of the impact of its proposed night operations on local residents. This report by Basner was published in 2006 and the field work was carried out between November 2001 and September 2002. The work involved 61 residents aged between 19 and 61 years old. The average age was 38. None of these people had a sleep disorder. The work recorded the participants for nine nights each and then used a Monte Carlo simulation to model the potential impact of aviation noise at night on a bigger population.
63. The World Health Organisation (WHO) has reported on the subject of night noise from aviation operations and the impact of that noise on the health and well-being of people in the local area. The WHO's night noise guidelines of 2009 and 2018 postdate the work done by Basner in 2001 and 2002. We comment on the WHO reports below.

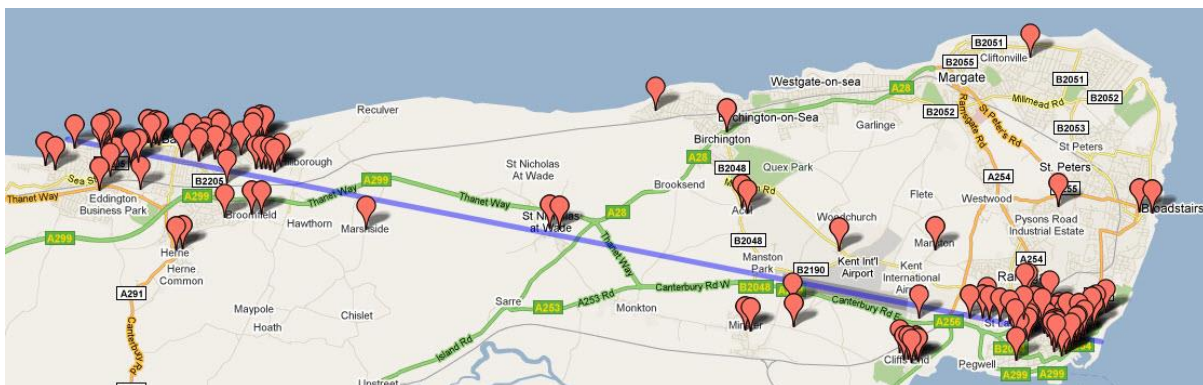
64. The 2009 WHO report concluded that “*Children, the elderly, pregnant women, people under stress and shift workers*” are particularly vulnerable to noise disturbance of their sleep.¹⁸ Children and the elderly were specifically excluded from the Basner study chosen by RSP. People with sleep disorders were also excluded. The WHO identified a correlation between stress and problems with sleep, so it is more likely than not that this group was also excluded from the Basner study. The Basner study therefore excludes some of the groups specifically identified by the WHO as being most vulnerable to having their sleep disturbed by noise. The 61 people used by Basner are certainly not representative of the population that would be affected by noise generated by night operations at a redeveloped Manston Airport.
65. Basner’s work focussed primarily on sleep arousal and awakening. It had little to offer on the subject of the damage that night noise from aviation causes to human health regardless of whether or not the individuals subjected to that night noise are woken by it. In contrast, the WHO reports identify the health outcomes that can be identified and predicted as a result of people being exposed to certain levels of night noise by aviation operations, whether or not those people are awakened by that noise.
66. RSP uses Basner’s work to support RSP’s contention that we all wake up eighteen times a night anyway, and so the introduction of up to eighteen flights a night over the local community of up to 80dB LASmax and 90dB SEL will not make the situation worse. RSP says¹⁹:
67. *“operational noise is considered to give rise to significant adverse effects if there is an absolute external noise level of at least 80 dB LASmax (approximately 90 dB SEL) and the average number of noise events during the night above this level is at least 18.”*
68. This is a quite extraordinary explanation of what might constitute a significant adverse effect. It is not a metric that we can find in existence at any other UK airport. It is not supported by the WHO (we say more about this below). And, indeed, it is hard to square this with other findings by Basner that he sets out in this very report:
69. *“Calculations based on the dose-response relationship established in the DLR field study expect that 16 of 100 airport residents will be woken up by four events with 53dB, whereas 39 of 100 residents, i.e., more than twice as many, will be woken up by four events with 73 dB.”*
70. The Bureau Veritas report to TDC in 2010 referred to the Heathrow Terminal 5 Public Inquiry. The Inspector produced his report of that Inquiry in December 2000. The Inquiry established that a similar “awakening” metric (and one which suggested that far fewer than 18 exposures to loud noise events would result in awakening) took no account of the full impact of aviation night noise because it ignored the effect of people having difficulty in going to sleep as a result of aviation noise as well as the health impact on them of aviation noise at night while they slept without waking.
71. The Inspector’s report into this Inquiry has been withdrawn from the Government website. If requested to cite it as a source, we are happy to apply for a CD to be sent to us which includes the full report.
72. RSP’s claim, based on Basner’s work, that seventeen flights a night creating a noise event of 80dB LASmax and 90dB SEL each will not trouble the local population is in no way borne out by the actual experience of the local population when the airport was operational. Between 1999 and 2014 (the period of commercial ownership of the airport) there were

¹⁸ World health Organisation - Night Noise Guidelines for Europe 2009 –para 2.3.5

¹⁹ TR020002-002431-5.2-12 page 27

never as many as eighteen flights in any one night. Despite this, the airport operator received hundreds of complaints from local residents in Ramsgate, Herne Bay and the villages every quarter about the very small number of night flights that did happen, and the fact that residents had been woken by them. This demonstrates that local people were affected by night flights **even if there was just one flight during a particular night**. This is actual data – not data obtained from a small field study and then a computer simulation. This real experience of the impact of past night operations at the airport must be taken into account. Minutes of KIACC always included complaints from residents about every single one of these rare night flights.

73. RSP has identified nothing that has changed since the airport closed in 2014 that would suggest that a local population woken by one night flight will not be woken in the future by seventeen. It is a significant gap in the Applicant's ES that it takes no account of the evidence available of the impact of historical aviation operations on local people.
74. RSP's Tony Freudmann was MD at Manston Airport when he worked for Wiggins and then Planestation. In that capacity, he attended many meetings of KIACC. We have the minutes from years KIACC meetings attended by Tony Freudmann where the regular agenda item of noise complaints was reported on and discussed. Tony Freudmann is well aware of the extent of the night noise nuisance at Manston generated by just one flight in a night, from his own first-hand experience during his time at Manston.
75. In 2010, No Night Flights drew a map to illustrate the extent and distribution of the night flight disturbance reported by residents. Herne Bay and Ramsgate, the two biggest centres of population that lie directly under the approach paths, stand out as hot-spots. However, RSP's home-made metric which draws on the Basner report suggests that these people could not possibly have been disturbed by night flights because there were never as many as eighteen in any one night.



79. RSP has chosen to ignore this element of Basner's findings. RSP is relying to a great extent on L_{Aeq} as the metric by which it is modelling the effect of night noise. We say more about this below.

The World Health Organisation's guidelines for night noise

80. In its report to TDC in 2010 about Infratil's application to introduce scheduled night flights at Manston, Bureau Veritas quoted the WHO report "Night Noise Guidelines for Europe – 2009" as follows:
81. *"For the primary prevention of subclinical adverse health effects related to night noise in the population, it is recommended that the population should not be exposed to night noise levels greater than 40 dB of $L_{night,outside}$ during the part of the night when most people are in bed. The LOAEL of night noise, 40 dB $L_{night,outside}$, can be considered a health-based limit value of the night noise guidelines (NNG) necessary to protect the public, including most of the vulnerable groups such as children, the chronically ill and the elderly, from the adverse health effects of night noise."*
82. The 2009 WHO report also says:
83. *"From the scientific point of view the best criterion for choosing a noise indicator is its ability to predict an effect. Therefore, for different health end points, different indicators could be chosen. Long-term effects such as cardiovascular disorders are more correlated with indicators summarizing the acoustic situation over a long time period, such as yearly average of night noise level outside at the facade ($L_{night,outside}$), while instantaneous effects such as sleep disturbance are better with the maximum level per event (L_{Amax}), such as passage of a lorry, aeroplane or train."²⁰*
84. In 2018 the WHO published new Environmental Noise Guidelines for the European Region. In the report's Abstract, the WHO said:
85. *"The main purpose of these guidelines is to provide recommendations for protecting human health from exposure to environmental noise originating from various sources: transportation (road traffic, railway and aircraft) noise, wind turbine noise and leisure noise. **They provide robust public health advice underpinned by evidence, which is essential to drive policy action that will protect communities from the adverse effects of noise.**" [Emphasis added]*
86. And, in the Foreword, the WHO said:
87. *"Following the publication of WHO's community noise guidelines in 1999 and night noise guidelines for Europe in 2009, these latest guidelines represent the next evolutionary step, taking advantage of the growing diversity and quality standards in this research domain. Comprehensive and robust, and underpinned by evidence, they will serve as a sound basis for action."*
88. Chapter 3.3 of the WHO's 2018 report is dedicated to aircraft noise. The WHO made clear recommendations:
89. *"For average noise exposure, the GDG [Guideline Development Group] strongly **recommends reducing noise levels produced by aircraft below 45 dB L_{den}** , as aircraft noise above this level is associated with adverse health effects."*

²⁰ World Health Organisation - Night Noise Guidelines for Europe 2009 – Executive Summary

90. *For night noise exposure, the GDG strongly recommends **reducing noise levels produced by aircraft during night time below 40 dB Lnight**, as aircraft noise above this level is associated with adverse effects on sleep.*
91. *To reduce health effects, the GDG strongly recommends that policy-makers implement suitable measures to reduce noise exposure from aircraft in the population exposed to levels above the guideline values for average and night noise exposure. For specific interventions the GDG recommends implementing suitable changes in infrastructure."*
92. In its 2018 report, the WHO said that it had found that "11% of participants were highly sleep-disturbed at a noise level of 40 dB Lnight." At 55dB Lnight, that figure rose to 25.5%.²¹
93. *"There is additional uncertainty when characterizing exposure using the acoustical description of aircraft noise by means of Lden or Lnight. Use of these average noise indicators may limit the ability to observe associations between exposure to aircraft noise and some health outcomes (such as awakening reactions); as such, noise indicators based on the number of events (such as the frequency distribution of LAmax) may be better suited. However, such indicators are not widely used.*
94. *The GDG acknowledged that **the guideline recommendation for Lnight may not be fully protective of health**, as it implies that around 11% (95% CI: 4.72–17.81) of the population may be characterized as highly sleep-disturbed at the recommended Lnight level. This is higher than the 3% absolute risk considered for setting the guideline level."²² [Emphasis added]*

²¹ World Health Organisation - Environmental Noise Guidelines for the European Region 2018 – table 32

²² Ibid – section 3.3.2.3

RSP's proposed night noise regime in the context of the WHO's night noise guidelines

The impact of RSP's proposal	What the WHO says
<p>RSP says at 12.6.68 of its Environmental Statement that 55dB L_{Aeq}, 8hr is consistent with the advice presented by the WHO in its 2009 Night Noise Guidelines as being the noise level at which significant adverse effects can be observed.</p>	<p>This is broadly true. However, the WHO is not saying that this level of noise is acceptable from the point of view of human health.</p> <p>RSP fails to set out the rest of the WHO's advice, which is that <i>"the population should not be exposed to night noise levels greater than 40 dB of L_{night,outside}".</i> This means that, during the night and averaged over a year, local people should not be exposed a noise level of more than 40dB outside their home. The WHO says that at noise levels of 55dB L_{night,outside} and above:</p> <p><i>"The situation is considered increasingly dangerous for public health. Adverse health effects occur frequently, a sizeable proportion of the population is highly annoyed and sleep-disturbed. There is evidence that the risk of cardiovascular disease increases."</i> ²³</p> <p>The WHO says that this level of night noise is to be avoided.</p>
<p>At 12.6.72 RSP says:</p> <p><i>"For the purposes of this assessment, an additional night-time LOAEL is also defined at 60 dB LASmax (outside) based upon advice set out within WHO Guidelines for Community Noise, which states that 60 dB LAmax at the outside façade represents a LOAEL in the context of sleep disturbance."</i></p>	<p>It is very surprising that RSP is quoting here the WHO's 1999 report given that the 2009 and the 2018 reports are available.</p> <p>In addition, we read what the WHO has to say in this report slightly differently. On pages 40 and 41 the report says that, where noise is not continuous (and it would not be in this case) then LAmax or SEL are used to indicate the possibility of noise-induced sleep disturbance. The WHO reports sleep disturbance at noise events measuring 45dB LAmax and under. The WHO concludes that the guidelines for maximum noise should therefore "be based on a combination of values of 30dBLAeq,8hr and 45dB LAmax."</p> <p>The WHO says that a lower limit than that should be considered to protect people sensitive to noise in areas where the background noise is low.</p> <p>RSP's additional LOAEL is clearly inappropriate.</p>

²³ World Health Organisation - Night Noise Guidelines for Europe 2009 – section 5.6

The impact of RSP's proposal	What the WHO says
<p>RSP says at 12.7.53 that:</p> <p><i>"In Year 2, no dwellings are forecast to be exposed to night-time noise above the night-time SOAEL of 55 dB LAeq,8hr with the Proposed Development (Figure 12.5). In Year 20 approximately 225 properties are forecast to be exposed to noise levels above the SOAEL with the Proposed Development (Figure 12.7).</i></p>	<p>We reiterate here that in 2009 the WHO says that people should not be exposed during the normal definition of night to noise levels of over 40dB. RSP's proposals will inflict that and more on 16,465 homes, an estimated 40,000 people at minimum. Nothing will be done to protect these tens of thousands of people. RSP says that a maximum of 225 dwellings will be eligible for sound insulation in Year 20.</p> <p>The WHO is clear that a noise level of 55 dB Lnight,outside is only to be considered in situations where the achievement of the Night Noise Guideline of 40dB Lnight,outside is not feasible in the short term. It should be emphasised that this interim target of 55dB is <u>not</u> a health-based limit value by itself. Vulnerable groups cannot be protected at this level. Therefore, says the WHO, a noise level of 55dB should be considered only as an intermediate target which can be temporarily considered for exceptional local situations. A new airport with a new night noise regime clearly does not match this criterion. The ExA should summarily reject any proposal for night noise levels above the 40dB 55 dB LAeq,8hr recommended by the WHO.</p>

The impact of RSP's proposal	What the WHO says
<p>RSP says at 12.7.5 that :</p> <p><i>"In Year 2, 10,512 dwellings are forecast to be exposed to aircraft noise levels above the night-time LOAEL of 40 dB LAeq,8hr, while in Year 20 16,465 dwellings are forecast to be exposed to noise levels in excess of the night-time LOAEL."</i></p> <p>RSP says at 12.7.66:</p> <p><i>"The 40 dB LAeq,8hr night-time LOAEL contour in Year 20 (Figure 12.7) extends approximately 8 km to the west and 10km to the east of the Proposed Development. This therefore encompasses the communities of St Nicholas at Wade, Minster, Cliffsend, Manston, Pegwell Bay and Ramsgate. These communities will potentially be impacted by increased aircraft noise in the night time."</i></p>	<p>In its 2009 report, the WHO says:</p> <p><i>"For the primary prevention of subclinical adverse health effects related to night noise in the population, it is recommended that the population should not be exposed to night noise levels greater than 40 dB of L_{night,outside} during the part of the night when most people are in bed. The LOAEL of night noise, 40 dB L_{night,outside}, can be considered a health-based limit value of the night noise guidelines (NNG) necessary to protect the public, including most of the vulnerable groups such as children, the chronically ill and the elderly, from the adverse health effects of night noise."</i></p> <p>And, for noise levels over 40dB L_{night, outside} and under 55dB L_{night, outside} :</p> <p><i>"Adverse health effects are observed among the exposed population. Many people have to adapt their lives to cope with the noise at night. Vulnerable groups are more severely affected."</i>²⁴</p> <p>In its 2018 report, the WHO said that it had found that "11% of participants were highly sleep-disturbed at a noise level of 40 dB L_{night}." At 55dB L_{night}, that figure rose to 25.5%.²⁵</p> <p>So, in Year 20, 16,465 dwellings and therefore tens of thousands of people will, on RSP's calculations, be exposed to adverse health effects with vulnerable groups being even more severely affected. If we apply the WHO's 2018 findings, 11% to 25.5% of those tens of thousands of people will be "highly sleep-disturbed" and this will lead to adverse health effects. This is the true health impact of RSP's proposal. The developer has failed to set this out.</p> <p>No Night Flights is clear that this human cost is in no way justified by the potential benefits (such as they are) of the developer's proposal. There is no justification for RSP to breach the limits suggested by the WHO for the prevention of subclinical adverse health effects related to night noise in the population</p>

²⁴ World Health Organisation - Night Noise Guidelines for Europe 2009 – section 5.6

²⁵ World Health Organisation - Environmental Noise Guidelines for the European Region 2018 – table 32

The impact of RSP's proposal	What the WHO says
<p>RSP says at 12.7.55:</p> <p><i>In Year 2, 11,356 dwellings may be exposed to a maximum noise level in excess of 80 dB LASmax at night (Figure 12.8). In Year 20, 10,139 dwellings may be forecast to be exposed to maximum noise levels in excess of 80 dB LASmax at night (Figure 12.9). The reduction from Year 2 is due to the forecast phase out of the Boeing 767-300 and Boeing 767-400 aircraft in the fleet. For residential receptors with no specific form of noise insulation, operational noise is considered to give rise to significant adverse effects if there is an absolute noise level of at least 80 dB LASmax and the average number of noise events during the night above this level is already at least 18. Even during the maximum forecast year an average of seven night-time flights are forecast; hence aircraft noise alone will not typically result in additional awakenings at these dwellings"</i></p>	<p>In Year 2 RSP plans to expose local people in 11,356 dwellings to absolute noise levels of at least 80 dB LASmax at night. RSP says that this will not wake people unless "<i>the average number of noise events during the night above this level is already at least 18.</i>"</p> <p>This is RSP's own home-brewed metric.</p> <p>This invented metric is not endorsed in any way by the WHO. Nor does the WHO endorse the idea that adverse health effects only occur when an individual is awakened. The "awakening" metric used by RSP is not an accepted way of measuring the impact on night noise from aviation operations of human health and on quality of life. The ExA should reject this metric.</p> <p>The WHO is very clear – noise levels of 55dB $L_{night,outside}$ and above are considered increasingly dangerous for public health. Adverse health effects occur frequently and a sizeable proportion of the population is highly annoyed and sleep-disturbed.</p> <p>We can find no authority on the subject that agrees with RSP that significant adverse effects do not arise until there are <u>also</u> at least 18 noise events of 80 dB LASmax per night. In fact, the WHO reports sleep disturbance at noise events measuring 45dB L_{Amax} and under. The WHO concludes that the guidelines for maximum noise should therefore "<i>be based on a combination of values of 30dB LAeq,8hr and 45dB L_{Amax}.</i>" RSP's suggested "definition" of the level of noise that would expose the population to significant adverse effects is, at its politest, an outlier. It is the view of NNF that this demonstrates that RSP intends to have no regard whatsoever for the impact on human health and well-being of its proposal.</p> <p>The ExA should reject RSP's "two-step" metric out of hand.</p>

The impact of RSP's proposal	What the WHO says
<p>RSP says at 12.7.56 and 12.7.57:</p> <p><i>In Year 2 (Figure 12.10), the N-above contours demonstrate that residential properties in the vicinity of the Proposed Development will be exposed to up to one aircraft noise event in excess of 80 dB LASmax on an average night.</i></p> <p><i>In Year 20 (Figure 12.11), the N-above contours demonstrate that residential receptors in the proximity of the Proposed Development and on the take-off/landing route over Ramsgate will be exposed to aircraft noise levels in excess of 80 dB LASmax up to 3.5 times on an average night. On this basis aircraft noise is not expected to result in additional awakenings at night, hence no significant effect has been identified as a result of maximum noise levels from aircraft at night.</i></p> <p>RSP says at 12.7.72:</p> <p><i>Considering that the impact is permanent and that a large number of dwellings within the communities are subject to minor to moderate adverse impacts, significant adverse effects have been identified at the communities of Ramsgate, Manston, Wade and West Stourmouth as a result of the Proposed Development. The effect would be characterised as a perceived change in quality of life for occupants of buildings in these communities or a perceived change in the acoustic character of shared open spaces within these communities during the night-time.</i></p>	<p>Again, the WHO reports sleep disturbance at noise events measuring 45dB L_{Amax} and under. The WHO concludes that the guidelines for maximum noise should therefore “<i>be based on a combination of values of 30dBL_{Aeq,8hr} and 45dB L_{Amax}.</i>”</p> <p>A lower limit than that should be considered to protect people sensitive to noise in areas where the background noise is low.</p> <p>RSP's proposed noise levels would have a significant adverse effect on a significant part of the local population. RSP is simply choosing to ignore the known facts here that, when the airport was operational in the past, people were awakened if <u>one</u> flight in excess of 80dB L_{Amax} went over in a night.</p> <p>RSP's claim that we will not be disturbed by up to eighteen such flights flies in the face of the evidence and is dishonest. RSP's proposal will subject tens of thousands of people to a permanent significant adverse effect on their health, well-being and quality of life. This is not justifiable.</p> <p>The reports commissioned by TDC from Bureau Veritas in 2010 and Parsons Brinkerhoff in 2012 to assess how many residents would be affected by noise if scheduled night flights were to be introduced, make it clear that noise nuisance is not confined to a small area within 2km of the airport. Indeed, Bureau Veritas predicted that the population within the 85 dB (A) SEL contour affected by a flight departure to the east over the centre of residential Ramsgate would be “<i>up to 30,903 [people] for the Boeing 747-400</i>”. This is the runway that has been – and will be – used 70% of the time.</p> <p>RSP's calculations ignore past experience and the robust guidelines put forward by the WHO and its proposed approach to measuring the impact of night noise on human health and quality of life is, at best, idiosyncratic. At worst it represents an unacceptable potential toll of the health and well-being of around 40,000 people.</p>

95. As we have set out above, the Basner metric that is integral to RSP's claim that an average of seven flights every night, some of them in excess of 80dB L_{Amax}, will not amount to a significant adverse effect on the exposed population specifically did not measure the impact of night noise on vulnerable groups such as children, the elderly and those with existing sleep problems. We set out brief submissions on the relevant research below.

A night flight regime that ignores current Government thinking

96. RSP's proposal is far, far worse than the night flight regime that was in operation at Manston airport when it was open between 1999 and 2014. It is far worse than the night flight regime that the airport operator, Infratil, suggested for Manston in 2009 while the airport was operational. That application was rejected by TDC as being unacceptable because it would have had too negative an impact on the local community. In addition, RSP's proposed scheme ignores the direction of current Government thinking on night flights and their impact on local people. The best description that we can think of for RSP's night flight proposal is that it is an unacceptable throwback and completely out of step with today's understanding of the negative impact that night noise from aviation inevitably has on community health and quality of life.
97. In July 2017 the Government published its new night noise regime for Heathrow, Stansted and Gatwick.²⁶ This regime will be in place until 2022. If successful in its DCO application, RSP suggests that its new cargo airport on the old Manston site could be operational by 2021. The Government's thinking as set out in its new regime is therefore a relevant consideration for any proposal for night flights at a reopened Manston. By the time that Manston reopens (if it ever does), we expect that the Government will be starting consultations about the next regime for Heathrow, Stansted and Gatwick. Given the debate about the negative impact of aviation, especially night noise, on local communities we expect the 2022-2027 night flight regime to be tougher than the current one.
98. The Government said that its objective for the 2017-2022 regime was to:
99. *"Limit or reduce the number of people significantly affected by aircraft noise at night, including through encouraging the use of quieter aircraft, while maintaining the existing benefits of night flights."*
100. The Government made it clear that part of its rationale for not coming down harder on night flights in the 2017-2022 regime was the fact that capacity is severely constrained at Heathrow and will be until the new runway is operational. The Government also made it clear that it had expectations about;
101. *"the specific requirements that the applicant for a new Northwest runway will need to meet to gain development consent - **including the government's expectation of a ban of six and a half hours on scheduled night flights.**" [Emphasis added].*
102. We see no reason why a redeveloped airport at Manston with ample daytime capacity should have unlimited night flights when the Government is pursuing a six and a half hour night flight ban for the nation's largest airport at Heathrow. RSP boasts consistently that, unlike Heathrow, there will be no capacity constraints at a reopened Manston. If this is the case then there is no rationale for extending to RSP greater flexibility to have scheduled and unscheduled night flights than the Government is prepared to extend to an extremely constrained Heathrow.
103. In addition, RSP's proposal is for a new airport. The local population is not currently subjected to aircraft noise at night. RSP's proposal would therefore be in contradiction to the Government's expressed objective to limit or reduce the number of people significantly affected by aircraft noise at night. RSP's proposal would expose additional tens of thousands of people to aircraft noise at night.
104. The Government made clear its readiness to bear down much more severely on night flights as and when additional capacity comes online at Heathrow. It is a reasonable assumption, then, that the Government will seek to continue to reduce the number and the impact of night

²⁶ Department for Transport - Night flight restrictions at Heathrow, Gatwick and Stansted. Decision document

flights at the airports that it regulates. This is a clear expression of Government policy based on its recent research. It is also clear that the Government recognises the toll that night flights take on a local community and that it wishes to give people a six and a half hour night noise curfew at minimum.

105. As part of the new regime, the Government also decided to:

106. *"introduce changes to the quota count system to ensure communities living around airports were protected from a potentially unlimited number of aircraft that would otherwise be exempt from the restrictions." [Emphasis added].*

107. The Government decided that from October 2018, it would introduce a new QC category for aircraft from 81 to 83.9 EPNdB. It also decided that aircraft quieter than this would continue to count towards the airports' movement limits and remain QC/0. The Government said:

108. *"As our consultation documents explained, while these are quieter than other aircraft operating at these airports, **they still produce noise levels that the World Health Organisation found could be associated with sleep disturbance.**" [Emphasis added].*

109. The Government was clear that all ATMs (bar a very few specialist aircraft such as those checking ILS equipment), including light prop movements, should count towards an airport's overall limit on night ATMs. The Government said:

110. *"the government does not believe it is proportionate to devise a separate classification system, but we do want to ensure these aircraft are treated consistently under the restrictions. We have therefore decided that while these aircraft should count towards the movement limits under the restrictions, they should remain exempt from the QC limits and be classified as QC/0."*

111. The Government said that it would measure progress towards its environmental objective of reducing the number of people who are affected by aviation noise at night against a number of criteria:

- The area of and number of people in the 48dB L_{Aeq} 6.5hr night noise contour. The Government said: *"This is a different measure to that used for the current regime, but reflects increased evidence about the impacts of lower noise levels on sleep disturbance and health"*
- The average QC per aircraft movement at night
- The total number of movements in the night quota period. The Government said:

112. *"[we] also continue to believe counting all aircraft towards an airport's movement limit is the correct approach. As explained within our consultation document and impact assessment, these aircraft can still expose affected communities to noise levels that the WHO identify as being capable of causing sleep disturbance. It is therefore right that they are treated in a proportionate way to other aircraft."*

113. *"Ensuring that these quieter movements still count towards an airports movement limits however will increase transparency for local communities about the maximum number of flights and amount of noise they can expect to be exposed to."*

114. The Government will also be measuring the health impacts associated with night noise down to 45dB L_{Aeq} 6.5hr.

115. In October 2017 the DfT published its “Consultation Response on UK Airspace Policy: A framework for balanced decisions on the design and use of airspace”. That document said that:
116. *“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 as part of a policy of sharing benefits of noise reduction with industry in support of sustainable development. Consistent with the Noise Policy Statement for England, our objectives in implementing this policy are to:*
117. *limit and, where possible, reduce the number of people in the UK significantly affected by the adverse impacts from aircraft noise;”*²⁷
118. *“The government acknowledges the evidence from recent research which shows that sensitivity to aircraft noise has increased, with the same percentage of people reporting to be highly annoyed at a level of 54 dB LAeq 16hr as occurred at 57 dB LAeq 16 hr in the past. The research also showed that some adverse effects of annoyance can be seen to occur down to 51dB LAeq.*
119. *Taking account of this and other evidence on the link between exposure to noise from all sources and chronic health outcomes, we will adopt the risk based approach proposed in our consultation so that airspace decisions are made in line with the latest evidence and consistent with current guidance from the World Health Organisation.”*²⁸
120. *“Frequency of noise is important and supplementing this risk-based approach with the frequency-based noise metrics will ensure that aircraft noise and its impacts can be accurately factored into decisions. It will also ensure communities understand how they will be affected by any changes and will enable interested parties to engage in an informed manner.”*²⁹ [Emphasis added]
121. These two Government documents – “Night flight restrictions at Heathrow, Gatwick and Stansted. Decision document” and “Consultation Response on UK Airspace Policy: A framework for balanced decisions on the design and use of airspace” set out the Government’s view that:
- There should be fewer people exposed to night noise from aviation, not more
 - New evidence has revealed that lower levels of aviation noise than once thought can have a negative impact on sleep and on health
 - Airspace decisions should be made in line with the latest evidence and consistent with current guidance from the World Health Organisation
 - Communities should be clear about the maximum number of night flights to which they might be subjected
 - A new QC category of 0.125 for aircraft from 81 to 83.9 EPNdB should be introduced
 - Aircraft quieter than this, including light prop aircraft, should be rated as QC0 and should also be counted as part of an airport’s night time ATM limit
 - The average QC per flight is an important metric. Airport operators should seek to reduce this as part of the drive to reduce the negative impacts on local people of night flights.

²⁷ Para 2.69

²⁸ Consultation Response on UK Airspace Policy: A framework for balanced decisions on the design and use of airspace – DfT – October 2017 paras 2.69 to 2.72

²⁹ Ibid para 2.74

122. RSP's proposed night flight regime scores miserably against the Government's declaration in 2017 of what is acceptable:

- It introduces a population of tens of thousands to a new source of aviation noise
- It does not reflect the current guidance set out by the WHO about safe levels of night noise
- It has no ATM limit whatsoever. The local community has no idea how many night flights will be imposed on it within a QC budget of 3,028. There is no transparency
- It ignores completely the Government's introduction of a new QC rating of 0.125. It is really surprising that RSP is ignoring a brand new QC classification completely
- It ignores the Government's decision that aircraft rated QC0 and light prop planes should still be counted as part of the night noise regime and that they should all count towards an airport's night ATM limit
- It allows aircraft rated QC4 to use the airport at any time day or night
- It offers no night noise curfew
- It provides for very few people to be eligible for noise mitigation support because the developer claims that significant adverse effects will not occur until the average night noise level is above 55dB $L_{Aeq, 8hr}$ and the population experiences eighteen or more sound events of 80dB L_{ASmax} in a night.

123. RSP says at 12.7.55:

124. *In Year 2, 11,356 dwellings may be exposed to a maximum noise level in excess of 80 dB L_{ASmax} at night (Figure 12.8). In Year 20, 10,139 dwellings may be forecast to be exposed to maximum noise levels in excess of 80 dB L_{ASmax} at night (Figure 12.9).*

125. Nothing will be done by way of noise mitigation for more than a couple of hundred of these dwellings. 10,139 to 11,356 homes and tens of thousands of people will experience night flights at a noise level of 80dB and more, and RSP will do absolutely nothing to mitigate against this. RSP's Noise Mitigation Plan entirely fails to recognise the extent of the noise nuisance that the developer's proposals will create. It also fails to provide sufficient noise mitigation compensation to address the challenges of the housing stock and architecture of Ramsgate. Ramsgate Conservation Area covers much of the historic town of Ramsgate. It is the largest conservation area in Kent. This offers serious constraints when it comes to how householders might deal with noise insulation. Noise insulation sufficient to mitigate against significant adverse effects would be very expensive and the amount proposed by RSP (£4,000) would be inadequate as compensation. Many residents simply could not afford the cost of proper noise insulation and many homes are not suitable for the types of insulation that can mitigate against noise. Many of the schools under the flight path could not undertake or afford the cost of the significant insulation works that would be required to prevent noise disturbance to lessons. Chatham and Clarendon Grammar School, as an example, is within a conservation area and would not be able to easily insulate all classrooms, even supposing it could afford to.

126. In addition, RSP's Noise Mitigation Plan has neither identified nor quantified noise mitigation for the many outdoor areas in Ramsgate such as squares, Regency lawns, parks, public garden squares, school playgrounds, gardens, recreational facilities, marina, beaches, promenades etc. in addition to the many places of worship and the significant proportion of houses with private gardens.

127. RSP is using a home-brewed metric distilled from the 2001-2002 research by Basner to skip away from its responsibilities to the local community. RSP interprets Basner's work as

saying that in essence that a minimum of 18 noise events a night has zero impact on sleep disturbance. RSP then says at 12.6.69 that “*one additional awakening as per the Basner et al (2006) methodology is considered SOAEL.*” At 12.6.70 RSP marries its 55dB L_{Aeq}, 8hr limit as being the noise level at which significant adverse effects can be observed (thus ignoring the robust findings of the WHO of the adverse impact on health and well-being of noise levels well below this) to its idiosyncratic interpretation of Basner’s work of fifteen years ago, saying:

128. *“At dwellings with no specific form of noise insulation, operational noise will be considered to give rise to significant adverse effects if there is an absolute external noise level of at least 80 dB LASmax (approximately 90 dB SEL7) and the average number of noise events during the night above this level is already at least 18.”*
129. As we have said above, TDC commissioned reports from Bureau Veritas in 2010 and Parsons Brinkerhoff in 2012 to assess how many residents would be affected by noise if scheduled night flights were to be introduced. Bureau Veritas predicted that the population within the 85 dB (A) SEL contour affected by a flight departure to the east over the centre of residential Ramsgate would be “*up to 30,903 [people] for the Boeing 747-400*”. This is the runway that has been used – and will be used - 70% of the time. RSP is ignoring this information.
130. RSP asserts that it will have no more than seven night flights in any one night. However, there are no ATM limits of any kind to constrain RSP to keep to this limit. According to RSP’s unique metric, people living in 10,139 homes and experiencing repeated events of noise levels of over 80 dB LASmax at night **will be given no protection whatsoever by RSP because they are experiencing 80dB LASmax a night “only” seven times a night.** This is a quite flagrant attempt by RSP to twist the truth of the situation and to avoid meeting its responsibilities. The “eighteen noise events a night” metric is NOT part of the UK Government’s approach and is NOT part of the WHO’s approach. This unique approach to assessing the impact of night noise on the local population demonstrates RSP’s determination to operate at night with scant regard for the significant impact on tens of thousands of people in the local community, and for the impact on our health and well-being.

No limit on the number of night flights

131. There is no mention anywhere in the Noise Mitigation Plan of the proposed number of night flights. RSP has done nothing to set out for the local community in an accessible and readily understandable way what its plans would mean for us in terms of the number of night flights to which we could be subjected and their impact on our everyday lives.
132. To demonstrate what *might* be inflicted on the local population, we have compared the night flight regime at a number of UK airports.
 - In the year to March 2017, with a QC “spend” of 2,645 (87% of the budget that RSP wants), Luton had 7,450 night flights between 2330 and 0600 – **that’s more than 20 flights a night on average.** Luton’s QC budget is 3,500
 - In the year to 27 March 2016, with a QC “spend” of 5,741, Heathrow had 5,498 night flights between 2330 and 0600 – **that’s more than 15 flights a night on average.** Heathrow’s QC budget has been reduced to 5,150 from October 2018
 - In the summer of 2016, with a QC “spend” of 4,913 (1.6 x the budget that RSP wants) Gatwick had 11,303 night flights – **that’s nearly 31 flights a night on average**
133. Put crudely, these airports handled between 1.04 ATMs and 2.8 ATMs per QC point spent. With a QC budget of 3,028, RSP could inflict on the local population an average of between

8.6 ATMs and 23 ATMs a night rated QC 0.25 and above, as well as an unlimited number of flights every night made up of planes with a QC rating of less than QC0.25. And, as the Government accepts, these planes of QC0.25 and below: *“still produce noise levels that the World Health Organisation found could be associated with sleep disturbance.”*

134. As a useful illustration of the absurdity of RSP’s approach, we have applied RSP’s idiosyncratic use of Basner’s work to Heathrow. If we trust the developer’s suggestion that there will never be any more than seven flights a night, then, according to RSP, nobody near the airport at Manston or under the flight path would be exposed to a significant adverse effect. By the calculation above, Heathrow has on average 15 night flights a night and RSP is claiming that anything fewer than 18 night flights has no impact on the local community. We would love to see the response from the thousands of people who live near Heathrow and/or under the flight path if the suggestion were made to them that night flights have little or no impact on them and their quality of life because there are fewer than eighteen a night. That is the reality of the RSP night noise metric.
135. There is no ATM cap anywhere in RSP’s documentation on its proposed night operation. RSP says that would wish to operate a maximum of seven flights a night on average. However, that relates to its supposed “worst case” of a maximum number of cargo ATMs p.a. of 17,100. The actual capacity for cargo ATMs at the new cargo airport at Manston would be, RSP has said, 83,300. To that must be added any passenger or other ATMs. There is no certainty anywhere in RSP’s documentation as to what this might mean for the “worst case” maximum number of night flights in any one year.
136. It would appear that RSP is hoping to have a significant proportion of its annual ATMs at night rather than during the day. It is difficult to gather the data to allow us to produce precise comparisons, but we offer the following reasonable approximations of the percentage of flights that are night flights at three of the airports mentioned above:
 - At Heathrow, for 2017, 1.15% of its flights were night flights
 - At Gatwick, for 2017, 3.95% of its flights were night flights
 - At Luton, for 2017, 5.57% of its flights were night flights³⁰.
137. It is difficult for us to produce a comparable figure for RSP’s proposed redevelopment of Manston as so little clear information has been given about night flights. Dr Dixon produces a Year 20 total (day and night) ATM forecast for Manston of 26,469 ATMs. This is a fraction of the total ATMs recorded in 2017 for Heathrow (475,783), Gatwick (285,912) and Luton (133,743). ³¹ Our guess using the examples set out above (and it can only be that as RSP has not set out clearly any limits on number of ATMs) as to how 3,028 QC points could translate into the number of night flights at Manston suggests a possible 3,139 to 8,395 night flights a year ³² (plus an unlimited number of night flights by planes rated QC0.125 and QC0).
138. This would equate to between 11.9% and 31.7% of the total forecast ATMs for the redeveloped airport at Manston being night flights. This is far in excess of the percentage of flights that are night flights at Heathrow, Gatwick and Luton. This is unacceptable. RSP has set out no business plan that demonstrates why it needs any night flights. It has not demonstrated that there would be any perceptible social or economic benefits that could accrue from the night flights that it does want. In fact, RSP has told the public that it does not need night flights, and yet it is asking the ExA to approve an unlimited number of night time ATMs.

³⁰ 2017 total ATMs recorded by the CAA divided by number of night flights

³¹ 2017 ATMs – source CAA

³² The 8.6 to 23 flights a night calculated above x 365 nights a year

139. It is highly probable from this that what RSP wants to do, at the expense of the local population, is to allow itself the freedom to develop a night flight cargo airport should it decide to do so. In reserving this “flexibility” for itself, RSP seeks to downplay or ignore current thinking and research on the impact of night flights on human health and well-being. RSP has not set out any business case that assesses the benefits that it thinks might flow from having a disproportionate number of night flights. Nor has RSP weighed those potential benefits up honestly against the cost to human health, well-being and quality of life. If RSP wishes its proposal to give it the opportunity to operate a night freight airport, then RSP needs to carry out a responsible environmental assessment of the potential costs and benefits and to take account of the evidence produced by the WHO in that assessment.
140. An obvious solution given the developer’s repeated insistence that it neither wants nor needs night flights apart from the ability to accommodate a rare late arrival is for RSP to offer the community a cast-iron guarantee that there will be no scheduled night flights between 2300 and 0700; that any airline that has to land during that period will be subjected to punitive fines of such a level that it will discourage repetition; and that any aircraft that does come in unscheduled during the night will not be allowed to depart until after 0700. RSP’s entire business case is that the UK is craving the capacity for additional daytime dedicated air cargo ATMs. If that is genuinely RSP’s case, then airline operators will fall over themselves to use daytime slots at Manston and will be happy to comply with a strict night flight curfew. The ExA should reject RSP’s afterthought application for night flights as part of its proposal.

A night flight regime that would allow noisier planes than are permitted at Heathrow

141. In addition to the significant flexibility that RSP wishes to retain over its night operations, at the expense of clarity for the local population about what we could be subjected to and with significant negative impact on our health and on the future quality of life, RSP proposes that it be allowed to schedule QC4 planes during the night.
142. In an era in which the Government expresses concern that planes rated QC0 and QC0.125 “*still expose affected communities to noise levels that the WHO identify as being capable of causing sleep disturbance*” it is extraordinary that RSP should suggest that it be allowed to schedule planes at night that are many times noisier than this and that have for years been deemed too noisy to be scheduled at night at Heathrow and other UK airports near centres of population. In November 2007, at a meeting of the old airport’s Consultative Committee, Thanet District Council made it clear that QC4 night flights “*had been considered by TDC in 2000 to be appropriate but this was no longer the case.*” RSP’s night noise proposals for QC4 aircraft are a blast from the past, and not in a good way.
143. It is a matter of record that in 2010 Bureau Veritas, independent noise experts, calculated that the population within the 85 dB(A) SEL contour that would be affected by a flight departure to the east of Manston would be: “*up to 30903 [people] for the Boeing 747-400.*” A Boeing 747-400 is rated QC4 on departure. It is absolutely and completely unacceptable that RSP should propose a night flight regime that allows it to schedule QC4 planes that would disturb up to 30,903 people for every departure to the east. This suggestion by RSP makes it unambiguously clear that RSP is prepared to have little or no regard for the impact of its plans on tens of thousands of local people.

A night flight regime that is worse than night flight regimes already rejected by TDC

144. In 2009 the then airport operator, Infratil, applied to TDC for permission to have scheduled night flights. Infratil suggested a QC total for the airport of 1,995 – less than two thirds of the

3,028 QC points being suggested by RSP nine years later. Infratil suggested that this QC total would mean an average of 7.7 flights a night. Compare this to RSP's suggestion that more QC points would mean fewer (i.e. a maximum of seven) flights a night. RSP clearly intends to operate noisier planes in the night period than Infratil planned to do.

145. TDC commissioned independent noise experts, Bureau Veritas, to assess the impact of Infratil's proposals on the community. In November 2010, Bureau Veritas submitted its report. Bureau Veritas concluded that:

146. *"Even with this in place³³, it is BV's view is that the predicted number of people likely to be exposed to significant levels of average night-time noise is not sufficiently justified by the number of passengers and freight activity that are forecast to benefit from the proposals. This is on the basis that the **number of people likely to be impacted by night noise at MSE, normalised with respect to the annual passenger throughput, is greater than that at each of the designated London airports.**"*

147. *BV considers that there is a good case for seeking a **lower annual quota limit than the 1995** proposed. Alternative lower limits have been proposed for consideration which would place MSE in line with the quota limits at other airports. At the designated London airports, the quota limit is accompanied by a movement limit and it would be **good practice to include a movement limit in any quota count regime established at MSE**. Introducing this measure and lowering the quota count limit would mean that the control system would take effect at a lower level of noise impact, thus limiting disturbance to a lower level." [Emphasis added]*

148. This makes it clear that, even in 2010, RSP's 2018 night flight proposal would have been deemed wholly unacceptable by Bureau Veritas and therefore by TDC, because;

- It proposes a QC limit of 3,028 where Bureau Veritas thought that 1,995 QC points was unacceptable
- It has no ATM limit
- It allows for a greater number of noisy planes. RSP's 3,028 QC equates (says RSP) to seven ATMs per night. If we take that claim at face value, then the average QC "spend" per night time ATM proposed for Manston is 1.2. This would mean that the average night flight at Manston is noisier than the average night flight at Heathrow (1.0)
- It gives the developer the freedom to operate a night airport with a greater negative impact on the community than the scheme put forward by Infratil would have delivered. Of that much smaller night flight scheme Bureau Veritas said:

"On the basis of the forecasts, however, MSE is showing a greater normalised disbenefit to that of Heathrow in terms of dwellings exposed to 54 dB LAeq,8h. In fact, the predicted number of people exposed to this level of noise at MSE is over double the number that were exposed to noise at Stansted and at Gatwick airports which cater for 10-15 times the number of passengers."

149. It is worth noting that Bureau Veritas produced noise footprint maps for the most commonly used freighters. These showed sound contours measured **not** in L_{Aeq}, but in the far more realistic **dB(A) SEL**. A set of maps for one aircraft, the Boeing 747-400, is shown at the end of this document. These give a far more realistic picture of the noise nuisance actually suffered by residents. They bear little relation to the 80dB LASmax night contours produced by RSP at figures 12.8 and 12.9 of its ES.

³³ "This" being a sound insulation scheme for residents whose dwellings would be exposed to 57 dB LAeq,8h or more.

A toothless system of penalties

150. RSPs' proposed system for fining airline operators that do not abide by the night flight regime is not acceptable. RSP proposes that any departing aircraft at night that exceeds 82dB LASmax at the noise monitoring terminal 6.5km away from the start of roll will be fined £750 and a further £150 for each decibel above that. In contrast, aircraft operators at Heathrow are fined £4,000 for each decibel in excess of the limit. RSP's Mr Freudmann has run Manston Airport before. Even in the year 2000, when the local Council had no experience of regulating airport operations, the system of fines agreed with the Council was stricter than the regime that RSP is suggesting now. In 2000 the fine for exceeding the agreed decibel level was an initial £500 with an additional £500 being levied for every additional decibel above the agreed limit. The monitors were set in Ramsgate and at St Nicholas.
151. Our previous experience of Manston Airport, in Mr Freudmann's time and afterwards, is that some of the cargo operators attracted to the airport were from the bottom end of the market – one operator was subsequently banned by the EU for safety reasons. It would appear that RSP is keen to develop a "night flight friendly" airport with few restrictions or penalties. This is unacceptable.
152. We have already commented on the local community's consistent rejection of any suggestion that scheduled night flights should be permitted at Manston. The most recent independent public survey of the local community's view of night flights is TDC's public consultation of 2012. In that consultation, the biggest consultation that TDC had ever carried out:
- 73% of residents were opposed to night flights
 - 74% of Thanet residents were opposed to night flights
 - 89% of residents living under the flight path were opposed to night flights.
153. Our stance is clear – there is no case for introducing scheduled or unscheduled night flights to a new airport at Manston. Thanet residents on average already suffer from worse health than the majority of the rest of the UK, and have some of the poorest physical and mental health statistics in Kent with the average life expectancy in Cliftonville West being 69 years, 18 years lower than the best in the county. What social, economic and/or environmental case could there be for inflicting on a disadvantaged population the damaging effect of aircraft noise day and night so as to lead to even poorer health outcomes for local residents? The polluter, RSP, is not able to mitigate the harm that it says it will cause to the health of the local population. The polluter is simply assuming that the local population will pay the price. This is unsupportable.
154. When compared to the guidelines produced last year by the WHO, guidelines that the WHO says are "robust public health advice underpinned by evidence, which is essential to drive policy action that will protect communities from the adverse effects of noise", it is clear that RSP's proposals for night operations at a reopened Manston airport cannot be allowed to go ahead. The adverse health impact is simply too great and RSP has set out nowhere in its application either a business case for why it needs night flights or a calculation of any benefit that could possibly accrue from its night flight proposals. Given that RSP's consistent case to local residents is that it does not need night flights at all and that it has included night flights in its proposal solely to satisfy PINS, it is hard to see how there could be any economic benefit here that could outweigh the substantial environmental, social and economic cost.
155. RSP's contention is that its proposal would be offering much-needed daytime capacity for dedicated air freight. The critiques produced by NNF of RSP's Azimuth reports demonstrate that there is no national need for this additional capacity. Given this, it is NNF's position that

a DCO should not be awarded for this proposal at all. However, we would be letting down our supporters if we failed to offer a clear position on the possibility – however small – of the DCO being awarded. If the ExA decides to award a DCO for this project, there must be an eight-hour curfew on scheduled flights between 2300 and 0700. There must also be the same curfew for unscheduled flights, with heavy penalties for any unscheduled flights that arrive “late” during the night period. No unscheduled flight that arrived “late” during the night period should be allowed to depart during the night period. Unscheduled flights should be reserved for true emergencies. Otherwise, as we know from experience, unscheduled flights tend to creep in with surprising regularity with the airport operator allowing this to happen.

Impact of aviation noise on vulnerable groups - children

156. Chronic and consistent aircraft noise exposure in children has been demonstrated to be associated with impairment of both reading and long-term memory, as well as a number of other negative health impacts. Children suffer from adverse effects when exposed to aviation noise, whether that noise is day noise or night noise. It is recognised that children have a special need for uninterrupted sleep for their growth and cognitive development.
157. The Munich Study³⁴ studied the effects of chronic noise and psychological stress on children living near Munich International Airport. This study was also able to investigate the impact on children living near the airport once the airport was relocated away from the study area.
158. *"The authors concluded that in young children chronic noise exposure appeared to cause increased psychological stress, as measured by cardiovascular, neuroendocrine and affective indicators and that these effects occur even among children who suffer no detectable hearing damage while living in the immediate vicinity of an airport."*³⁵
159. The RANCH project³⁶ has been the largest study of noise and children's health to date. It examined relationships between aircraft noise exposure and school performance, annoyance and blood pressure in children aged nine to ten in the Netherlands, Spain and the UK. For the UK sample of the RANCH study, night noise contour information was linked to the children's home and related to sleep disturbance and cognitive performance.
160. *"The RANCH results, considered with evidence from previous studies, suggests that aircraft noise has specific causal effectiveness on children's school performance and health. The functions adversely affected by noise are reading, recognition memory and annoyance. It is not known whether these effects are temporary or permanent."*³⁷
161. Results from both the Munich and RANCH studies suggest that night aircraft noise exposure does not appear to add (our italics) any cognitive performance decrement to the cognitive decrement already induced by a child's exposure to daytime aircraft noise. In other words, aircraft noise for developing children is equally bad both day and night.³⁸
162. *"Stansfeld et al (2010) also examined the effect of night-time aircraft noise exposure on the cognitive performance of children. This analysis was also an extension of the RANCH study, and the Munich study in which 330 children were assessed on their cognitive performance in three waves, each a year apart, before and after the switch over of airports. Aircraft noise exposure and self-reported sleep quality measures were analysed across airports to examine whether changes in night-time noise exposure had any impact on reported sleep quality, and if this was then reflected in the pattern of change in cognitive performance. In the Munich study, analysis of sleep quality questions showed no evidence of interactions between airport, noise and measurement wave, which suggests that poor sleep quality does not mediate the association between noise exposure and cognition. In the RANCH study, there was no evidence to suggest that night noise had any additional effect to daytime noise exposure. The authors explain that this investigation utilised secondary data and therefore was not specifically designed to investigate night time aircraft noise exposure"*

³⁴ The Munich Airport Noise Study-Effects of Chronic Aircraft Noise on Children's Perception and Cognition, Hygge, S, Evans G W, Bullinger, M, InterNoise2000, 2000

³⁵ ERCD Report 0908 Aircraft Noise and Children's Learning, Civil Aviation Authority, 2010 – page 10

³⁶ Road Traffic and Aircraft Noise Exposure and Children's Cognition and Health: Exposure-Effect Relationships and Combined Effects (RANCH Study), American Journal of Epidemiology, 2005

³⁷ RANCH Study – page 2

³⁸ Night-time aircraft noise exposure and children's cognitive performance, Stansfield S, Hygge S, Clark C, Alfred T, 2010 - Abstract

on cognitive performance in children, but the results from both studies suggest that night time aircraft noise exposure does not appear to add any further deleterious effect to the cognitive performance decrement induced by daytime noise alone. They recommend that future research should be focussed around the school, for the protection of children against the effects of aircraft noise exposure on performance.” ³⁹

163. The RANCH research team recommended that new schools should not be built close to existing airports. It follows that new airports should not be built close to existing schools. Schools in Ramsgate that are under the flight path are:
 - Manston School House Nursery
 - Chatham and Clarendon Grammar School
 - The Elms Nursery School
 - Priory County Infant School
 - Fledglings Nursery School
 - Ellington CP School
 - Christchurch Church Primary School
164. As indicated from the screenshot below taken from RSP’s documentation, ‘*significant adverse effects*’ can be expected for these schools. The effects include disruption, disturbance or interference with tasks by the users of the building. The ‘users’ of these buildings are children and teachers. The ‘tasks’ that will be interfered with are learning activities.
165. In addition to the impact on cognitive function and development, studies have posited the detrimental effect on the physical health of children exposed to aviation noise nuisance in the short and long-term.
166. *“An imbalance between leptin and ghrelin can lead to an increased sense of hunger with weight gain as a consequence. The risk of diabetes due to sleep disturbance and poor cognitive performance have been identified as accompanying long-term effects of disturbed circadian rhythms.”*⁴⁰
167. RSP says in its Environmental Statement at 15.8.10
168. *“Depending on the existing ambient noise environment and existing building fabric, disruption to learning with measurable effects on reading age for children is possible at affected schools, prior to further mitigation. **This could adversely affect quality of life and prospects for children concerned.**”* [Emphasis added]

³⁹ Environmental Research and Consultancy Department of the Civil Aviation Authority (ERCD) Report 0908 Aircraft Noise and Children’s Learning, Civil Aviation Authority, 2010 – page 32

⁴⁰ The Effects of Noise Disturbed Sleep in Children on Cognitive Development and Long-Term Health, published in the Journal of Child and Adolescent Behaviour in 2015 – page 6

*reduction from Year 2 due to phase out of Boeing 767 aircraft in the fleet

Permanent noise impacts at sensitive non-residential properties

12.9.57 **Table 12.26** presents predicted daytime noise levels resulting from the Proposed Development's probable route in Year 20 at sensitive non-residential receptors which are potentially impacted by aircraft noise.

12.9.58 Considering the magnitude of the impacts and the sensitivity of the receptors, **significant adverse effects have been identified at the following non-residential receptors:**

- ▶ Manston School House Nursery
- ▶ Chatham & Clarendon Grammar School
- ▶ The Elms Nursery School
- ▶ Priory County Infant School
- ▶ Masque Theatre School
- ▶ Fledglings Nursery School
- ▶ Ellington Cp School
- ▶ Christchurch Church
- ▶ Spitfire & Hurricane Memorial Building
- ▶ Pie Factory Music

12.9.59 The significant effect will be characterised by potential disruption, disturbance or interference with tasks by the users of the buildings.

12.9.60 The magnitude of the effect will depend on the existing ambient noise level at these receptors. For example at receptors which are already exposed to transport noise levels in excess of the impact

169. The Health and Social Care Act 2012 places a statutory duty on health services to reduce inequalities in health. There are severe inequalities with regard to the health of children in the UK and within Kent, and children in Thanet suffer some of the poorest health and health outcomes in the country.⁴¹
170. *"Thanet is within the worst quintile in the UK for inpatient costs for under 5-year olds for a number of conditions including neurological, cancer and gastro-intestinal specialties but Thanet performs particularly poorly for musculoskeletal specialties with the second highest costs nationally per 1,000 population."*⁴²
171. Thanet also has a higher percentage than average of looked-after children.⁴³ It is unacceptable that children living in an area which places them at serious health disadvantage - children living in an area where their life chances are already compromised - should be subjected an additional 'significant adverse effect' by RSP's aviation proposal and to the seriously detrimental impact of aviation noise on them as clearly identified by academic and medical research.

⁴¹ Kent Annual Public Health Report, 2015

⁴² Thanet Clinical Commissioning Group, Annual Report 2015/16 – page 12

⁴³ "Looked after" refers to the group of children that would once have been described as "in care"

Impact of aviation noise on vulnerable groups – the elderly and others

172. Children are a particularly susceptible group when it comes to environmental noise but they are not the only ones at risk. The elderly are also at specific and particular risk of adverse health impacts as are those with pre-existing health conditions. Thanet has higher proportion of elderly people than the national average. The health needs of this elderly population tend to be more complex and to put particular pressure on local health services.
173. Thanet also has a high proportion of people with mental health needs. There is a high prevalence in the area of a wide range of unhealthy behaviours, such as smoking, binge drinking, obesity and generally unhealthy eating, all of which contribute to the disproportionately unhealthy population and the significant health inequalities of the area. Thanet has the highest rates of substance misuse in Kent, with drug and drink abuse resulting in significant health issues and needs. The life expectancy of Thanet residents is the lowest in Kent with very significant variations within Thanet itself. Thanet has a high mortality rate from coronary heart disease and there are significantly poorer outcomes for people with Chronic Obstructive Pulmonary Disease (COPD) in the area. Thanet has the highest prevalence of people with mental health issues compared to similar areas nationally. There is the 4th highest rate in England of emergency admissions for people aged 75 plus (with a stay of under 24 hours). Thanet has one of the highest rates of undiagnosed dementia in England.⁴⁴
174. Care homes are mentioned only twice by RSP in Chapter 15 and yet living in these residential homes are some of the most vulnerable people. Thanet has a disproportionately aged population, a trend that is set to increase. In conjunction with the relatively high prevalence in the area of dementia and other chronic conditions, many associated with older age, the high number of care homes, in addition to the frail elderly being cared for at home, has been given scant attention by RSP. A thorough review of the numbers of care homes under the flight path and within the general area should have been undertaken and specific consideration given to the vulnerabilities of the people who live within these homes. Noise insulation plans, in general, would not address the specific needs of this particularly vulnerable section of the population. In addition, the proposal's impact on their inability to enjoy and benefit from being outside should have been considered.
175. Thanet is an area of significant deprivation. The health impacts of aviation noise are well and increasingly evidenced. A proposal which acknowledges, yet significantly underestimates, the impact of noise on a population already hugely disadvantaged cannot be supported. The detrimental effects on the whole population but, most significantly, on the most vulnerable and at risk, cannot be ignored.
176. In recent years, the evidence that aviation noise impacts negatively on cardiovascular health has mounted. Increased risk of hypertension, heart attack and stroke are significant. Babisch and van Kamp (2009) evaluated the exposure-response relationship of the association between aircraft noise and the risk of hypertension. Due to the absence of large scale quantitative studies there has been no clear association found between aircraft noise, ischemic heart disease, and myocardial infarction. However:
177. *"There is sufficient qualitative evidence, however, that aircraft noise increases the risk of hypertension in adults."*⁴⁵

⁴⁴ Thanet Clinical Commissioning Group, Annual Report, 2015/16

⁴⁵ ERCD Report 1208, Aircraft Noise, Sleep Disturbance and Health Effects: A Review, 2013 – page 37

178. The health effects of environmental noise created by aviation operations are diverse, serious and because of widespread exposure, very prevalent. For populations around airports, aircraft noise exposure can be chronic. The WHO guidelines for exposure to environmental noise are clear and the proposals from RSP would represent a breach of these guidelines.⁴⁶ We have set this out above.
179. A study (Franssen, 2004) which involved surveying those living near Schiphol Airport, found an association between aviation noise levels and poor health overall and the use of medication for cardiovascular diseases or increased blood pressure:
180. *"Franssen concludes that exposure to aircraft noise may be a risk factor for cardiovascular disease."*⁴⁷
181. No Night Flights has always concerned itself with need to prevent flights during the night (23.00 to 07.00) and has focused particularly on the impact of such flights on health. However, many of the studies to date have not distinguished between daytime and night-time aircraft noise, or have not been able to distinguish the separate causal links of daytime and night-time noise for a population that is exposed to both, or have not been carried out in people's own homes, or have insufficiently considered confounding factors. It is clear, however, that aircraft noise – day and night - has a detrimental impact on human health and wellbeing.
182. The Civil Aviation Authority's ERCD Report 1278, Aircraft Noise and Health Effects examined research evidence published since 2009 relating to transportation noise, in particular aircraft noise and the resulting impacts on various health endpoints. The findings within this paper should be carefully considered:
183. *"The differences between night time noise and day time noise could not be distinguished due to their high degree of correlation. The authors suggested that further research is needed to assess whether night time noise affecting sleep may be contributing to the observed results. In addition to possible causal relationships between aircraft noise and cardiovascular outcomes, it is important to consider the potential for confounding and ecological bias in this study. An important area for further research would be to determine the relative contribution of night time noise compared with daytime noise to the respective health endpoint."*⁴⁸
184. *"It was reported that the results obtained when using the same categories for daytime and night time aircraft noise indicated that the relative risks for mortality were higher for night time noise."*⁴⁹
185. *"There is a need to understand the burden of disease and disability-adjusted life years in relation to noise exposure and cognitive impairment. To this end, longitudinal studies are needed for understanding the causal pathways between noise exposure and cognition. The long-term consequences of aircraft noise exposure, during early school life, on later cognitive development and educational outcomes have not yet been studied and remain important for policy making decisions. It is recommended that greater understanding is needed of the mechanisms of working memory and episodic long-term memory in children in relation to noise effects."*⁵⁰

⁴⁶ Aircraft Noise Effects on Health, Queen Mary, University of London, 2015, for the Airports Commission – pages 26 to 27

⁴⁷ ERCD Report 1208, Aircraft Noise, Sleep Disturbance and Health Effects: A Review, 2013 – page 38

⁴⁸ ERCD Report, 1278, Aircraft noise and health effects: recent findings, 2016 – page 19

⁴⁹ ERCD Report, 1278, Aircraft noise and health effects: recent findings, 2016 – page 17

⁵⁰ Ibid – page 64

186. The research into causal links between aircraft noise, day, night-time and 24 hour, continues to mature and it is essential to consider the weight of evidence and interpretation over time and of most recent years. What is clearly established is that there is significant adverse effect on human health, in particular for those people in the most vulnerable groups. The RSP proposal insufficiently examines risk, research and the real evidence available of the levels of noise that resulted from previous operations at the past airport. The result of these omissions is that RSP considerably downplays the negative impact on the local population of the day and night ATMs that it plans.
187. Even though this is a developing field, and even though there is a need for further research fully to separate out the adverse impact of night noise and day noise, there have been many studies looking in particular at the impact of aircraft noise at night time on adults. Due to the increasing body of evidence showing that there is a negative impact on populations exposed to aviation noise nuisance at night, an increasing number of international and national policy guidelines and directives are seeking to prevent or decrease the numbers of night flights at airports where a large population would be adversely affected.
188. The HYENA study examined the impact of aviation noise on blood pressure in adults living near seven major European airports including London Heathrow.
189. *"The HYENA study found that a 10dB increase in aircraft noise at night was associated with a 14% increase in odds for high blood pressure."*
190. *"It also found that a 10dB increase in night time aircraft noise was associated with a 34% increase in the use of medication for high blood pressure in the UK."*⁵¹
191. As part of the framework of the HYENA study, the acute effects of night-time noise in relation to blood pressure were also reported in 140 subjects (Haralabidis et al, 2008). The authors concluded that:
192. *"the absence of short-term habituation to the cardiovascular effects of noise, especially those during sleep, are likely to support a link between acute and long-term effects of noise exposure and hypertension and cardiovascular disease."*⁵²
193. Elmenhorst et al (2010) looked at night time aircraft noise and the impact on cognitive performance the following day:
194. *"The authors propose that the results hint at changes in physiological processes due to nocturnal aircraft noise exposure. Only healthy adults were included, however, the researchers infer that the effects of nocturnal aircraft noise may result in stronger impairment in vulnerable groups such as children or people who are ill."*⁵³
195. The significance of sleep to human health is increasingly being investigated as it is during the night that the body undergoes specific restorative functions. Anything that prevents this necessary physiological 'repair' work and energy saving functions can be detrimental to health:
196. *"Often, there is a discussion that sleep represents a trophotopic phase (energy storing), contrasting with an ergotropic (energy consuming) phase when we are awake (Maschke and Hecht 2004). Therefore, frequent, or long-awakening reactions endanger recovery and therefore health. Such frequent occurrences of arousal triggered by nocturnal noise can lead to a deformation of the circadian rhythm. Also,*

⁵¹ Aircraft Noise Effects on Health, Queen Mary, University of London, 2015, for the Airports Commission – page 3

⁵² ERCD Report 1208, Aircraft Noise, Sleep Disturbance and Health Effects: A Review, 2013 – page 36

⁵³ ERCD Report, 1278, Aircraft noise and health effects: recent findings, 2016 – page 50-51

*the deep SWS phases in the first part of the night are associated with a nadir of cortisol, and a maximum of growth hormone, both necessary for the physical wellbeing of the sleeper.”*⁵⁴

197. *“The review discusses the nocturnal effect of noise on the cardiovascular system and highlights the importance of the findings of Schmidt et al (2013) for CAP 1278 Chapter 2: Cardiovascular effects March 2016 Page 27 supporting a link between nocturnal noise exposure and cardiovascular disease. In addition, it is explained that a sustained decrease in blood pressure during the night (dipping) is important for resetting the cardiovascular system and therefore for cardiovascular health. If environmental noise causes cortical arousals, sleep fragmentation and/or awakenings this may prevent the blood pressure dipping process and contribute to the risk for developing hypertension in those people exposed to night noise for prolonged periods. The authors suggest that there is sufficient evidence for nocturnal environmental noise effects on the cardiovascular system, autonomically in the instances of increases in heart rate and blood pressure, and directly, in terms of vascular function through endothelial dysfunction, that a biological rationale is provided for the increased risk of hypertension, myocardial infarction and stroke in those people with long-term exposure to sufficient noise levels.”*⁵⁵
198. Research showing an association with aircraft and road noise and cardiovascular disease measures continues to mature. There is emerging evidence to suggest that cardiovascular effects are more strongly linked with night time noise exposure as opposed to day or total (24hr) noise exposure.
199. *“With regard to night noise and sleep disturbance, there is growing recognition that average indicators such as L_{night} are insufficient to fully predict sleep disturbance and sleep quality and that use of number of noise events (L_{Amax}) will serve to help understanding of noise-induced sleep disturbance.”*⁵⁶
200. It is evident that there are particular and specific negative health impacts associated with aircraft noise at night time and it is important that the inspectors read the body of evidence available to date that confirms this. Undoubtedly, there is a need for much more research to be undertaken, in particular the need for longitudinal studies. However the summative analysis in the ERCD Report of 2013 is clear.
201. *“The analysis of whole night sleep parameters resulted in the following findings:*
- Noise can result in an overall heightened state of arousal level that leads to a redistribution of time spent in different sleep stages*
 - An increase in wake and stage 1 sleep*
 - Decrease in REM and SWS*
 - Although overall changes are relatively small, these could be of clinical relevance in sensitive populations or chronic exposure situations in terms of short-term (e.g. daytime sleepiness) and long-term (hypertension) health effects)*
202. *This detailed paper stresses the need for future large scale field studies on the effects of nocturnal aircraft noise on sleep. It is suggested that several groups of the population are included, such as children and chronically ill. Long-term studies are needed to investigate the future consequences of noise-induced sleep disturbance.*

⁵⁴ ERCD Report, 1208, Aircraft Noise, Sleep Disturbance and Health Effects: A Review, 2013 – page 39

⁵⁵ ERCD Report, 1278, Aircraft noise and health effects: recent findings, 2016 – page 26 to 27

⁵⁶ ERCD Report, 1278, Aircraft noise and health effects: recent findings, 2016 – page 65

*Further recommendations include epidemiological case-control studies on the association of nocturnal aircraft noise exposure and cardiovascular disease.”*⁵⁷

203. The level of consultation undertaken by the applicant with regard to health and wellbeing falls short of best practice. Consultation with individuals - the Kent Director of Public Health and the Clinical Chair of Thanet Clinical Commissioning Group - is to be welcomed but this limited consultation falls well short of what is needed to understand the local situation. A full range of stakeholders should have been consulted - for example, a wide range of clinical opinion, particularly with regard to existing chronic health conditions prevalent in the local population and those particularly likely to be aggravated by the adverse impact of aircraft noise. RSP should have consulted a range of mental health experts; educationalists; allied health professionals; social care practitioners and care home owners and managers. Similarly, in terms of establishing a health and wellbeing baseline, RSP needed to have cast its net much wider in terms of the data readily available to it as to the health, wellbeing and health inequalities position locally. It is particularly important that the applicant consider the impact of its proposals on populations already suffering some of the worst health inequalities in the country. RSP has failed to do this.
204. RSP's summary of community health needs and objectives (15.4.3 onwards) appears to suggest that correcting lifestyle and behaviour choices in the population, as part of local authority and health services planning and objectives, will result in improved health in the local population and therefore RSP needs to pay less attention to the adverse health impact of its proposal. This optimistic approach fails to consider the wider adverse impacts of RSP's proposal on environment, lifestyles, local regeneration and local communities etc. that may in themselves mitigate against any hoped-for improvements in lifestyle choices planned for against the status quo. RSP says that the Thanet CCG Chair noted 'the need for jobs in Thanet with the importance of socio-economic benefits to health'. However, this is not the same as the Thanet CCG Chair saying that RSP's proposal will have a net positive impact on health locally. One could equally say that the jobs proposed by the landowner of the airfield site would bring about the same desired health benefits.
205. In Table 15.4, RSP acknowledges that impact characteristics during the operational phase of its proposal with regard to airport and aircraft noise are "direct, adverse, local and long-term". Similarly, with regard to airport/aircraft air pollutant emissions, the impact characteristics are "direct, adverse, local and long-term". At 15.8.4, the applicant says that:
206. *"These results indicate that the Proposed Development would lead to a potential 2% to 3.6% increase in cases of hypertension within the population exposed to Year 2 noise levels, rising to approximately 3.2% to 5.6% additional cases at Year 20 levels"*
207. *"The evidence suggests that the relative change in noise also has the potential to contribute towards approximately one annual incident case of disease or mortality from ischaemic heart disease or stroke at Year 2 levels, rising to around two to four cases at Year 20 levels. This corresponds to a 2.8% to 4.3% change in background incidence."*
208. The applicant has not demonstrated how any benefits that could conceivably flow from its proposals would outweigh the cost in additional disease and death for the local population. As has already been discussed in the foregoing sections on noise and night flights, the basis on which RSP's health impact predictions are made is fundamentally flawed and the adverse impacts described can be expected to impact a far higher proportion of the population. RSP must be interrogated on its noise contouring and noise methodology. **RSP must be required to take into account the historic noise data relating to the airport, and the WHO's evidence about the impact of noise on health, and use a more realistic assessment of the adverse impact on health of its proposal.**

⁵⁷ ERCD Report 1208, Aircraft Noise, Sleep Disturbance and Health Effects: A Review, 2013 – page 41

Appendix A – Boeing 747-400 footprints in 85, 90 and 95dB(A) SEL



Fig. 1 747-400 approaching from the west – 85, 90 and 95dB(A) SEL footprints



Fig. 2 747-400 departing to the east – 85, 90 and 95dB(A) SEL footprints

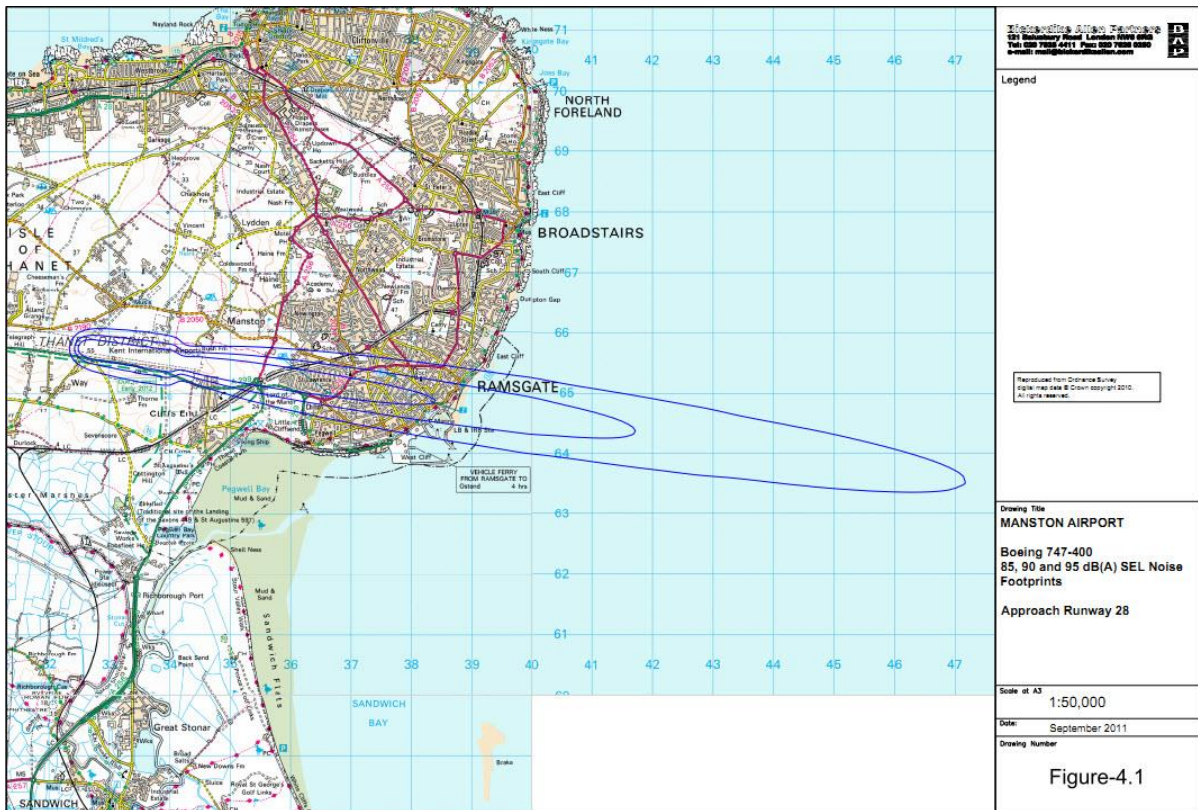


Fig. 3 747-400 approaching from the east – 85, 90 and 95dB(A) SEL footprints



Fig. 4 747-400 departing to the west – 85, 90 and 95dB(A) SEL footprints