Chris Lowe: interested Party, Registration Number: 20014275 Manston Airport DCO TR020002

WRITTEN RESPONSE

NOTE: Headings in **Bold** show issue to which a response is shown

References are given a number plus document title in brackets, with list of all References at the end, and a separate email attachment with the smaller documents.

Introduction

I have been concerned at the poor management of the former Manston airport ever since it became a purely civilian airport, and CPRE Kent's concern was sufficient for them to issue a Report in 2001: "Manston The Real impact' (**1 Manston Final.rtf)**, and Chapter 8. Conclusions and Recommendations included:

"**8.1 Seeking a balance**

CPRE Kent is not averse to the principle of some development at the airport. Indeed, it believes that appropriate and carefully planned development as a local airport could play a role in assisting the economy of Thanet and some of the surrounding regions. But there are important balances to be struck. As well as bringing opportunities for some jobs, airports bring noise, pollution and congestion, all of which lower the quality of life in the area affected. Without adequate planning and control then there is the risk that the airport would carry on developing inexorably. Any plans for the future of Manston must be carefully defined and take all factors into account so that overall there is a positive benefit to the area.

8.2 Concerns over the development of Manston Airport

With the above in mind, CPRE Kent has raised a number of very serious concerns over the way development is proceeding. These include: -

Lack of local democracy: development is proceeding with little meaningful consultation with local people and environmental groups. While it may be true that many local people are in favour of development, assuming that they understand the limited information provided by the developer and local authority, developing the airport will affect a much wider area than simply the residents of the Isle of Thanet.

Circumvention of the planning process: the Local Authority has successfully argued that a former military airfield with a Certificate of Lawful Authority requires no Planning Application. Nevertheless, the absence of a planning application means that the ability of other interests to comment or object to the development are effectively nil, and the ability of effective control measures to be placed on the airport's development and operation are drastically reduced.

Failure to address the local economic effects: no meaningful analysis of the full economic implications of developing the airport has been undertaken, or is planned. The figures for job creation are tenuous at best, being based on a ratio dependent on anticipated rapid growth in air travel. Researchers dispute the validity of this ratio and there is no mention of how many of the anticipated new jobs will be taken up by current Thanet residents, neither has any assessment of the negative effects on the local economy been undertaken.

Environmental implications have been virtually ignored. Aviation is the fastest growing contributor to global climate change, and a major polluter. But maintaining a high quality environment is not simply of importance for leisure or aesthetic value. It is of crucial economic significance, especially in Thanet, whose economy relies heavily on visitors enjoying the coast or making use of English language schools, for example. Developing the Airport could have drastic implications for quality of life in Ramsgate at least, and is likely to jeopardise plans for an urban renaissance in the town."

At the time of the report, 2001, there were fewer than a thousand Air Transport movements (ATMs) a year, and if managed properly, and without night flights, would have been acceptable. The problems related to the management of the airport itself, and I would comment that at least one of the people involved with RSP, Mr Tony Freudmann, was in a position to improve matters at that time, but did not do so.

This Examination has the potential to ameliorate some of those problems highlighted, but the proposed scale of development cannot overcome the enormous impacts of this Application.

In particular, the Air Quality, Climate Change and Noise have been known for a long time, but over the last twenty years the many reports on these issues have shown ever increasing damage caused by them, so all three aspects need much stronger controls than has been proposed so far.
In addition, this continuing evidence of a worsening situation means that the Precautionary and Preventative Principles also require these stronger controls.

Principal Issues as revised by the ExA 18/1/2019

A Air quality – to include:

1. Cumulative effects of road and air traffic, including ground based operations

Air pollution is already a serious problem and is under-recorded because of lack of sufficient continuous monitoring.
So the Precautionary Principle means that there should be no increase in air pollution, and it would foolhardy to even consider a new scheme such as Manston until there is effective monitoring and control is in place.

2. The effects on the Thanet Urban Air Quality Management Area (AQMA) and designated sites

B Climate change – to include:

1. **The mitigation of, and adaption to, climate change**

We welcome the inclusion of Climate Change being upgraded to a Principal Issue in the Examination.

Air transport is the most damaging transport mode in terms of Climate Change with the impact being more than double that of the carbon dioxide emitted by the aircraft.

It is also important to note that the mix of aviation pollutants includes some large non-CO_2, but shorter lived effects, and because the Paris Agreement requires more rapid de-carbonisation the shorter lived effects are very important to keep temperatures down while we deal with the longer term impacts **(2 Specific Climate Impact of Passenger and Freight Transport** [redacted]

The Proposal also involves night flights, which themselves have around double the effect of daytime flights **(3 importance of the diurnal and annual cycle of air traffic for contrail radiative forcing.pdf)**, so just the Climate Change impact of the aircraft is very large, without even considering the contribution from all the surface traffic, embedded energy of new buildings and loss of carbon absorption from the 70.6 Hectares of built over grass areas (See 'Other Environmental Issues, 7, Floods' below).

The government's view on the need to rapidly reduce climate emissions is provided by the Department for Business, Energy & Industrial Strategy (DBEIS) who explain the effects of rising temperatures on the UK (**4 Effect of rising temperatures on the UK DBEIS.tiff**) which says:
"Even if global temperature increases are limited to 2°C or less, there are projected to be impacts for the UK. Temperatures over land would be expected to increase by more than the 2°C global average. In a 2°C world in the UK there could be a 30% decrease in river flows during 'dry' periods, a 5-20% increase in river flows during 'wet' periods, and between 700 and 1,000 more heat-related deaths per year in South-East England compared to today."
CPRE Kent, in its work on water resources, has already highlighted the continuous decline over several decades of local river flows, such as in the River Stour, which flows to the south of the Proposal site, so that the water resource deficits will clearly increase as the DBEIS statement indicates greater reductions (up to 30%) than increases (5 to 20%) in river flows. The Water Framework Directive (WFD) already reduces abstractions, so

this is a very strong reason not to locate the Proposal in East Kent as it and its consequential impacts would greatly increase water demands in this water stressed area.
The DBEIS goes on to say (**5 Tackling Climate change DBEIS.tiff**): "Tackling climate change: If we take action to radically reduce greenhouse gas emissions now, there's a good chance that we can limit average global temperature rises to 2˚C above pre-industrial levels. This doesn't mean that there will be no more changes in the climate – warming is already happening – but we could limit, adapt to and manage these changes."
and: "It makes good economic sense to take action now to drastically cut greenhouse gas emissions. If we delay acting on emissions, it will only mean more radical intervention in the future at greater cost, and larger impacts on society.
Taking action now can also help to achieve long-term, sustainable economic growth from a low-carbon economy."

So the economic benefits claimed by the Applicant, which I dispute, would be lost by the widespread damage caused by the emissions.

Aviation emissions are not going down because the introduction of some slightly more efficient aircraft have been outweighed by the number of flights and the distances flown.

The particular problem with aviation is that its effects are in the sky and affect the atmosphere. For example, water vapour may come out of our car's exhaust, but it doesn't matter as it just makes the local area more humid. In contrast, the contrails formed by aircraft exhausts, make a nice warming blanket around the earth. In addition gases such as carbon dioxide stay in the atmosphere for hundreds of years, so if we add more than be taken out by plants or the oceans, then the effects are cumulative.
That is why aviation is such a problem.
So the effect of aviation emissions is much greater than that from surface transport, with rail being the least damaging, especially if renewably-sourced electricity is used.

Hence the non-CO2 emissions need to be included as the Government's Aviation Strategy requires that: " planning applications for capacity growth to provide a full assessment of emissions, drawing on all feasible, cost-effective measures to limit their climate impact, and demonstrating that their project will not have a material impact on the government's ability to meet its carbon reduction targets" (6 **Paragraph 3.96, aviation-2050-print.pdf**).

Many alternatives to aviation fuel have been suggested but none are yet capable of replacing aviation fuel for commercial flights, and are unlikely to be so for some time, especially as aircraft last for 30 years, so these cannot be considered realistic alternatives for this Examination.
Electric 'planes with batteries are possible, but again impractical, especially for freight aircraft, and for longer flights aviation fuel has the advantage that the 'plane becomes lighter as it goes further.

The Government accepts the Committee on Climate Change's recommendation that emissions from UK-departing flights should be at or below 2005 levels in 2050, and this means staying within the maximum emissions limit of 37.5 Mt, but this needs reducing further, in view of the DBEIS view above.

Evidence published alongside the Green Paper says "for 1.5°C global scenarios, *any* continued emissions of CO2 from aviation using fossil fuels beyond around 2050 will be inconsistent with the Paris Agreement goals in the absence of extra measures, or alternatively, correspondingly increased negative emissions."

Realistically there is zero potential for "negative emissions" being available for Manston, and because the 37.5 Mt limit is already taken by existing airports and their flights, there is no capacity within that limit for the emissions from this proposal.

In order to meet the targets, the number of flights need to be constrained, not increased.

Sir Howard Davies has emphasised that : “As our report noted, the more that the ‘carbon budget’ for aviation shrinks, the more important it becomes for that budget to be used as efficiently as possible, making it all the more vital for capacity to be available where it is most needed.” (**7 Top of page five 180607-Joint-letter-from-Sir-Howard-Davies-and-Sir-John-Armitt-to-Members-of-Parliament-regarding-the-Airports-National-Policy-Statement.pdf**).

So to keep within the limits of existing emissions, the choice of expansion at Heathrow and not elsewhere means it is reducing flights elsewhere in the UK while it increases London capacity.

This is because: “The Government have assessed the compatibility of its support for expansion of existing runways with the UK’s climate change commitments on the basis that the additional capacity will contribute no more than 3,000 ATMs by year 2040 for all UK airports. *Making Best Use of Existing Runways, June 2018, paras 1.11-13 and Table 1”.*
So allowing Manston with 10,000 (or more) ATMs would conflict with this commitment.

In addition, the Committee on Climate Change **(8 Letter CCC to Secretary of State, 12/2/2019)** have written to the current Secretary of State for Transport with requirements to actually limit demand and not use 'offset' nor convert to large scale biofuels etc., so there is no room for manoeuvre on this.

This is especially relevant as neither UK air transport nor surface transport emissions have decreased, unlike other sectors, such as cleaner electricity and lower fuel use by business and industry which have provided two thirds of the emission reductions so far, and there is no immediate opportunity of using new technology to reduce emissions, and freight aircraft are usually old inefficient models which have even higher emissions than the latest passenger aircraft.

The Government’s 2005 Sustainable Development Strategy requires the Precautionary Principle to be applied to all Government decisions, and indeed the Parliamentary Office for Science and Technology emphasises the need to meet the EU's four Environmental Principles: the Precautionary, Prevention, Rectification at source, and Polluter pays principles (**9 Environmental Principles in EU POST-PN-0590.pdf**).
As the Applicant cannot prevent these emissions, nor rectify, nor pay, for them, Manston cannot proceed.

The Committee on Climate Change is due to produce two significant Reports early this year, 'Advice on the long-term strategy for UK aviation emissions' which will provide advice to the Government on the long-term strategy for the UK’s aviation emissions. In-turn, this advice will inform the Government’s forthcoming Aviation Strategy, as will the Report: 'Advice on the UK’s long-term climate change targets', so the total Climate Change impacts need to be considered with regard to these two reports in the Examination.
See: [redacted]

The current limits are in themselves inadequate to meet the targets to which the UK is committed, not to mention the more stringent targets needed to actually achieve the proposed more limited temperature increases as shown by the Chief Executive of the Committee on Climate Change, Chris Stark, in his new year message who said (**10 CCC newsletter 11/1/2019.rtf**)

“A trio of reports in the latter half of 2018 brought home the dangers of inaction:
The [redacted] brought clarity to the scientific evidence of the impacts of global warming, including a summary of the evidence of impacts at 1.5°C [redacted], reminded us that global efforts to meet the temperature goals of the [redacted] are now *substantially off-track* [redacted] (UKCP2018) provided the clearest assessment yet of what the UK will experience from the changing climate, summarised by [redacted] at its launch:
“We are now very clear on the global position: the world has already reached around 1°C of post-industrial warming; we are on course for an alarming 3°C; yet, *current national pledges are not sufficient* to keep temperature increases to the Paris goal of 1.5°C.

Last year, we gave a cautious welcome to the [redacted]: a plan is now in place

(a notable achievement amidst the political turmoil on Brexit) but the *policies do not yet match the ambition.*
Our June Progress Report informed Parliament [redacted]. And our [redacted] revealed a plan that fails to match the scale of challenge the UK faces in adapting to the changing climate.
We offered deeper commentary on crucial policy issues:
Our letter to Chris Grayling on [redacted], and major reports on the role of [redacted] and [redacted] in a low-carbon economy, contributed to the body of evidence *supporting much greater ambition by government to reduce UK emissions*

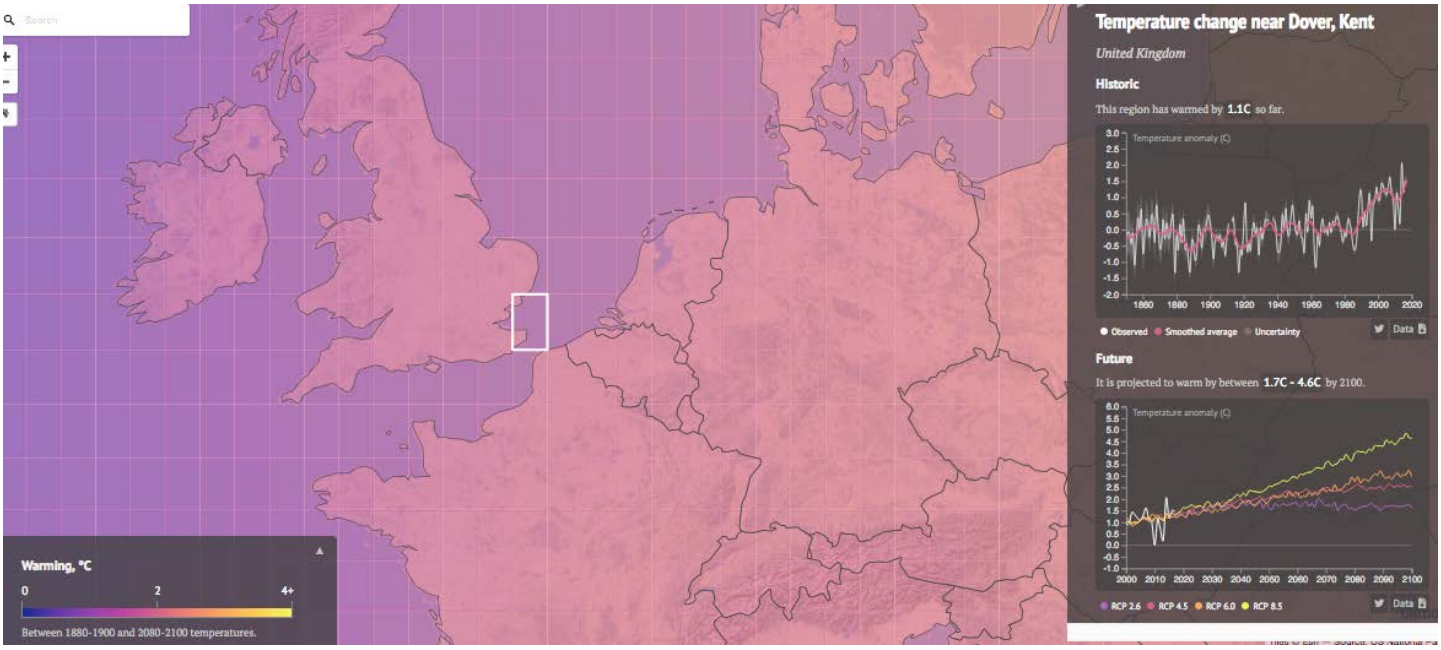
Our aim with the 2019 programme is to inform policy across the *whole* of government. We'll publish new advice on aviation, as DfT finalise their [redacted] strategy.

Which brings us to our principal challenge in 2019: [redacted]'. Ten years ago, in our first act as the newly-independent Committee on Climate Change, [redacted] 80% cut in greenhouse gas emissions was the appropriate 2050 target. In the decade that has followed, a great deal has changed. This is the right time to reappraise the long-term target. We intend to offer a thorough and rigorous assessment of where we stand in light of the UK's commitments under the Paris Agreement.
Of course, the hardest challenge is not setting new long-term targets; it is acting now. The lesson from last year's IPCC report is not – as some have said – that we have 12 years to respond to climate change, it's that we must act *immediately.*
In 2019, expect the CCC to return regularly to the need to implement the simple, effective steps that we know will cut emissions and prepare us for the unavoidable changes in the UK's climate. That's our most important New Year's message."

The most 'simple, effective step' for aviation is to refuse this Application.

Finally the impact on Thanet of climate change – which is not identical to other areas in the UK, has been shown by Carbon Brief, September 26. 2018 that this area has already been warmed by 1.1C, and that it is projected to warm by between 1.7C - 4.6C by 2100, the lowest rise is for RCP 2.6, while highest rise is for RCP 8.5.

The map overlay on the interactive below shows the amount of warming to expect in each grid cell based on future [redacted] (RCP) scenarios developed by climate scientists. These four scenarios represent different possible future emission trajectories. They range from the low-warming [redacted] scenario, which keeps global warming from the pre-industrial era to below 2C, up to a high-warming [redacted] scenario that would likely see global temperatures rise to above 4C.



([redacted])

I also note that Climate Change affects people's Human Rights and their Equalities because poor people are more affected than the better off.

C Compulsory Acquisition – to include:

1. Whether all of the land which the Applicant wishes to acquire compulsorily has been shown to be necessary for the purposes of the Proposed Development
2. The compelling case in the public interest for Compulsory Acquisition
3. Alternatives to Compulsory Acquisition, modifications to the Proposed Development and including attempts to acquire by agreement
4. The management of potential risks or impediments to implementation including the need to obtain other permits
5. Crown Land
6. Special Category Land
7. The position of Statutory Undertakers

D **Funding** – to include:

1. Sources and availability of funding and the degree to which bodies have agreed to make financial contributions or to underwrite the Proposed Development, and on what basis such contributions or underwriting are to be made
2. Further details of responsible bodies, including details of relevant Company assets, structures, ownership, Directors, proofs of willingness to invest and track record of developing and operating nationally significant infrastructure projects, notably airports
3. The bases for the estimates of costs
4. **Funding for the scheme as a whole**

I am uncertain to what extent the Applicant has allowed for funding transport improvements which are consequential to the airport's development, but the 2013 Aviation Policy Framework **(11 aviation-policy-framework.pdf**), says: "Paragraph: 5.12 The general position for existing airports is that developers should pay the costs of upgrading or enhancing road, rail or other transport networks or services where there is a need to cope with additional passengers travelling to and from expanded or growing airports."
For example Network Rail has clearly identified need for station changes, but as far as I could see, not extra

carriages or trains, so this is an extra cost for the Proposal.

5. Funding for Compulsory Acquisition if authorised, including for blight
6. Funding for the Noise Mitigation Plan
7. Provisions in the draft Development Consent Order (dDCO) for guarantees in respect of payment of compensation
8. The soundness of the business case and the viability of the business model
9. Whether there is a realistic prospect of the Proposed Development proceeding should it be consented

E **Habitat Regulations Assessment and effects on biodiversity** – to include:

1. Likely significant effects on European protected sites and species, including conclusions regarding effects on integrity
2. **Effects on other habitats and species, including bird scaring techniques and habituation**

For both of these headings I have significant concerns over the potential loss of biodiversity and habitats through breaches of the regulations on Conservation of Habitats and Species and Directives on Habitats and Wild Birds, particularly in the light of the recent 'POW' judgment on the Habitats Directive (CJEU's People Over Wind decision, published 12 April 2018, Case C-323/17).
That decision also affects the EIA, inasmuch the EIA should assess the damage expected from the airport without mitigation .

F Landscape, design, archaeology and heritage – to include:

1. The effect on Conservation Areas
2. The Effect on Ramsgate Heritage Action Zone
3. The effects on Scheduled Monuments
4. The effects on Listed Buildings
5. The effects on heritage assets within the airport site
6. Management and mitigation of impacts on archaeological features
7. The design approach taken, including the parameters based approach and justification for the sought provisions in Article 6 of the dDCO regarding limits of deviation
8. Masterplanning
9. Landscaping and planting schemes including any proposals for off-site mitigation schemes

G Planning policy – to include:

1. The status of, and policy framework provided by, the Saved Policies from the 2006 Thanet Local Plan and the Draft Thanet Local Plan – 2031
2 History of relevant planning policies and proposals on the site

H **Need** – to include:

1. **National and regional airports and air transport policy and guidance**

The National Policy Statement for Airports says nothing about 'new' airports.
Wikipedia (en.wikipedia.org/wiki/Manston_Airport) says:"Manston Airport is a closed British airport", so this Application is for a 'new' airport. RPS evidence shows no existing capability at Manston, and their proposal, being so much larger than any previous activity, is effectively a new airport.

National and Local Policies and Plans do not propose new airports. The Airports National Planning Statement offers support for increasing use of existing operational airports but not new airports - Manston is not existing airport. The NPS allows Heathrow developments, but the only other expansion would be increasing use of "Existing airports" only.
Hence there is insufficient policy evidence for qualification as DCO or Compulsory Purchase processes.

2. UK airport air cargo capacity and forecasts, including locational demands and cargo types/ markets

3 Need for any airport development to take place at Manston

The total of UK Reporting all Air Transport Movements (**12 CAA Table_04_2_Trans_Move_by_Type**) were highest in 2007, with 2,379,000 ATMs, with 2017 achieving 2260000 ATMs and 2018 only achieving 2,210,000 movements (unaudited figure). Hence there is plenty of ATM capacity at other airports.

Scheduled traffic every day can be seen on an airport's information webpages , so it is possible to look at the number of planes at each airport, at each time of day to see where there are gaps where more cargo flights could be fitted in, and apart from Heathrow and Gatwick, airports are not "full" all day. All other airports are seeking more traffic to make more income, so Manston has no chance

The report "Air Freight: The Facts, Rose Bridger, Airport Watch 2009" (**13 Air+Freight+Report+Airport+by+Airport+final**) gives the freight tonnage was 2,158,571 tonnes in 2007. Using published data in the relevant airport Master Plans for freight at those airports in 2015 and 2030, showed a planned increase of 2,231,197 tonnes by 2015 so total would then be 4,389,768 tonnes. For 2030, a planned 4,470,362 tonnes increases total to 6,628,933 tonnes. Heathrow anticipated belly hold growth, but did not quantify the amount, so the increases excluded growth at Heathrow, which to 2015 was 185,620 tonnes.The actual result for 2015 achieved all of 2,299,328 tonnes and this includes all UK airports, some of which were not included in the Report's data, for reasons such as lack of published growth data.

As is usual for aviation, the expectations exceed reality, with 2015 actually achieving 2,299,328 tonnes, a growth of 140,757 tonnes, a fraction of the 'planned' growth of 2,231,197.

So existing airports have capacity planned in their Master Plans, greatly in excess of National forecasts for air transport and freight movements, so there is no evidence for RSP's proposals.

As might be expected from the London-centric growth promoted by Government, the 'London airports' total freight has grown over the period 2007 – 2017, but the tonnage at 'Other UK airports', which includes Manston, has declined over the decade, with Manston having a maximum of 31,078 in 2012.

The long debate over a new runway at existing London airports has meant that Heathrow and Gatwick, for example, have steadily increased passenger and freight capacity within the restricted runways, due to more efficient use of each plane, that is a higher load factors, and also, where appropriate larger aircraft. These actions have the benefit of reduced emissions per tonne.

Heathrow Runway 3 is backed by Government, so is more likely than Manston to go ahead, and this would increase that capacity further, totally negating any need for new capacity at Manston.

The National forecasts for Air Freight Movements show no demand for proposals, and previous operators' forecasts never approached achievement, so current forecasts are not convincing.

An industry expert estimates that 15-20 tonnes of air cargo is worth 30-40 economy passenger seats, when both are on passenger planes.(**14 Value of cargo.pdf**)
Using belly hold for cargo means that if fewer passengers are paying for a flight the difference can be made up by cargo, thus it increases the total load factor per aircraft, making it more economic and this reduces risk.
In contrast, pure cargo aircraft have no other options to increase load factors and load factors for cargo aircraft, at around 50%, are much lower than the 80% for passenger aircraft (**15 IATA Europe-Jan19.pdf**), thus increasing the cost per tonne.

It also means that cargo aircraft are unlikely to provide regular scheduled services except for large integrators, but even then the range of destinations are unlikely to match those of passenger aircraft.

Unfortunately for RSP, Manston's location at the most north-easterly tip of Kent means it is further away from

London than the 'London' airports, and it is poorly located to serve the logistics hubs of the midlands which serve the wider UK, and it also suffers from a relatively small flying population locally that might make it viable.

This also means that there are few local suppliers requiring significant amounts of outward-bound freight.

So the north-east tip of Kent is wrong place for strong passenger or freight base, with few potential passengers nearby, and too far from London for freight distribution and on wrong side of it for areas north of London.

I can find no compelling reasons why a freight forwarder or carrier would favour Manston over other airports.

By implication RSP makes wholly implausible and exaggerated claims of marketshare when in operation and I consider that RSP has presented forecasts in an attempt to meet the NSIP criteria, but has failed to do so.

4 **Competition with, and possible displacement from, other UK airports**

Manston would be in competition with existing airports, which would fight hard to retain existing customers so it would be extremely difficult for a new startup.

Gatwick could suffer from Manston's competition if its charges were comparable or lower than Gatwick's, and so there might also be domino effects on Heathrow and elsewhere.

The net effect in that scenario is that fewer flights and destinations could be offered at these other airports.

Alternative modes of transport are not mentioned as a Principal Issue, but East Kent is in the unique position of also having high speed rail under the Channel which connects us to many parts of Europe. It also has the benefit that cargo trains from as far away as China come to the UK. Their travel time of one week may seem long in aviation terms, but if the total journey time from origin to final destination is considered then for many things the time is acceptable and is considerably quicker than by sea and easier than by road. Rail also has the lowest emissions, especially as the parts powered by electricity often use renewables.

Eurotunnel reports that it carries £12 bn of fresh fruit and vegetables per year, 1 million express delivery parcels a day, and has carried 380 million tonnes of freight and le Shuttle has carried 80 million vehicles since opening.

There is also the facility for road transport to use the tunnel and also the ferries, and again for many European destinations the total time is comparable to that for aviation, but with far lower emissions.

So Manston has this competition right on its doorstep, which will make it harder for Manston to develop as it proposes.

CPRE Kent and others have for long campaigned to reduce the risks of the UK's dependence on Dover for cross channel transport because in the twelve months ending September 2018, more vehicles left Great Britain via the Dover Strait port group (56%) than all of the other port groups combined. ([redacted])

This means that it is essential that additional traffic is not generated in East Kent because it would not only add to the damage from existing HGV traffic, but would also greatly increase the risk of congestion on the routes from East Kent.

I **Noise** – to include:

1. **The assessment of effects on humans and faunal species**

Sound is vibrations in the air which the ear can hear. Noise is unwanted, unpleasant or disturbing sound, and relates to how the Sound is perceived by the individual hearing that sound.

Unless you are in a plane, or involved with the air transport industry, aircraft sounds are unwanted.

Compared to road or rail sounds, aircraft noise is more intrusive and disturbing and so objectionable, as shown by the World health Organisation (WHO) "Environmental Noise Guidelines for the European Region 2018" **(17 WHO noise-guidelines 2018.pdf**) , which provides separate maximum noise levels for road, rail and air transport, with air transport having the lowest maximum levels. Hence communities object to aircraft noise, especially if they feel that the airport does not take their concerns seriously.

Sound and its measurement has unusual characteristics, which make it harder to explain and understand. The sound levels are measured in decibels (dB), which is not an absolute measurement but is a ratio of between two sound levels expressed using logarithms. This means that for two sounds each of 30 dB, the result of the two together is 33 dB. Hence the difficulty of using phrases such as "twice as loud" which is meaningless unless qualified, with actual numbers and units.

In order to allow for ear characteristics sound levels can be "A-weighted" so that low frequency sounds are reduced and higher frequencies are increased by levels that correspond to an 'average' human ear, and this is called A-weighting, and became the commonest measure because early sound level meters could not offer different weightings. However use of this metric has also encouraged aircraft makers to shift sound levels to lower frequencies. The C-weighting applies a correction for loud sounds and is used for loud sounds in industry (eg such as Noise at Work Regulations) – and aircraft. Unfortunately the aviation industry has persuaded governments to just use A-weighting, and have ignored tonality, hence adding to the disjoint between measured levels and communities' perception of aircraft noise.

There is no better example of the disconnect between technical measurements and people's perceptions than "The Quiet Con" **(18 the_quiet_con hacan.pdf)** with Heathrow Terminal 5 Inspector saying:
"21.3.29 I accept the Department's (DfT) view that any noise index must be reliable, robust, realistic and sensitive. I am not convinced that the LAeq 16hour index used by the Department meets all of those criteria. It was criticized by all the main parties opposing Terminal 5 as failing to reflect the actual experience of those living around Heathrow.
21.3.31 Equally LAeq 16hour does not indicate the maximum noise of individual events so that it cannot indicate how many times conversation is interrupted in a particular location whether it be a school, a major public space such as Kew Gardens or a private house or garden. Since these are the very factors which cause annoyance, I can understand why many argued that LAeq 16hour failed to reflect the concerns felt by local residents.
21.3.33 The greatest single criticism of the LAeq approach was that it failed to give adequate weight to the number of aircraft movements. As the Department accepted, the addition of a further 400 movements by light Chapter 3 aircraft would increase the LAeq 16hour by only 1dB. As the Department acknowledged even a difference of half a decibel could be significant and the area enclosed by a contour would increase by 15-20% for each 1dB increase in the LAeq level. To this extent the LAeq is influenced by the number of events. The issue is whether that influence is sufficient to reflect the experience of those affected. In this context I am concerned by the evidence that for departures, Concorde's contribution to the LAeq 16hour was almost equivalent to that of the rest of the fleet put together. This reflects the claim that Concorde produces as much noise energy as 120 Boeing 757's or 35 Boeing 747-400's. "
The Report also has lot more information, including the A and C weightings and examples of real life measurements.

The Government's consultation: "Night Flying Restrictions at Heathrow, Gatwick and Stansted, Stage 1", Department for transport, July 2004, in Paragraph 3.12, commenting on the World Health Organisation's then current*Guidelines for Community Noise, 1999 (*WHO 1999*),* said: "The recommendation was that the *Guidelines for Community Noise* should be adopted as the long term targets for improving human health. The UK Government is committed to take account this"

At that time, the the WHO values for Night noise were: Outside bedrooms 45 dB Leq (8 hr) and 60 dB LAmax with window open.

Now in the latest "Environmental Noise Guidelines for the European Region 2018" **(17 WHO noise-guidelines 2018.pdf)** WHO's recommendations are 5 dB lower at night, together with 45 dB Lden, and they say:
"3.3 Aircraft noise Recommendations
For average noise exposure, the GDG 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.
For night noise exposure, the GDG strongly recommends reducing noise levels produced by aircraft during night time below 40 dB *L*night, as aircraft noise above this level is associated with adverse effects on sleep.
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. "
In setting these levels, WHO considered that for the Lden value, "It was confident that there was an increased risk for annoyance below this exposure level", and for the Lnight value, "11% of participants were highly sleep-disturbed at a noise level of 40 dB *L*night.".
Progress has been very slow so far in achieving the 1999 Guidance, but the Government's commitment to reduce noise was shown in the " **(19 night-flight-restrictions-at-heathrow-gatwick-and-stansted-decision-document.pdf),** Paragraph 2.21: "The 48dB LAeq 6.5hr contour is therefore used for comparative purposes to measure progress and assess the impacts of different options for the night flights regime. Our assessment of the health impacts associated with different options does measure impacts below this - down to 45dB LAeq 6.5hr". However this came out before the latest WHO Guidance of 40 dB Leq8hr which strengthened the evidence of the adverse effects from noise, so the least that the public would expect for a brand new airport is to seek to achieve the new WHO levels.

As part of this clampdown on noise, the Government is now going further in its "Aviation 2050 **(Chapter 3, Ref: 6 aviation-2050-print.pdf)**, saying it intends to have a "stronger and clearer" framework with better incentives for noise reduction and noise caps set at the planning stage.

To implement this the CAA has proposed a national aviation noise limitation scheme in: CAP 1731 Aviation Strategy Noise Forecast and Analyses December 2018, CAA **(20 CAP 1731 Aviation Strategy Noise Forecast and Analyses-2.pdf)** and on Page 64 they say:
"In summary, the proposed limit scheme consists of:

1. 1) A nationally set absolute Quota Count limit or noise contour area limit at a particular noise level for both day and night, aggregated across all major airports (which Manston would be if it meets NSIP requirements);
2. 2) A locally set absolute Quota Count or noise contour area limit at a particular noise level for both day and night for each airport;
3. 3) Local monitoring of the number of highly annoyed and highly sleep-disturbed people;
4. 4) Reporting requirements."

If these are implemented as proposed then there would be a national cap on airport noise for England, together with individual caps for each airport.
In the case of the national cap, it would provide no allowance for a new Manston Airport, as it is not an existing airport so there would be no "spare" capacity for Manston to use, so that Manston would be severely limited by noise constraints.

Despite the stricter noise controls that are coming, recent research shows that even these controls may not be sufficient to reduce the adverse effects of noise.
The paper "Transportation noise and public health outcomes: biological markers and pathologies
29 Aug 2018, , Faulkner J, Murphy E, presented at Internoise 2018, reviewed 50 items of academic literature which show that adverse health impacts begin somewhere between 30 to 39 dB, in other words below the WHO level of 40 dB.

This makes it clear that that the impact on health is serious and urgently needs to be addressed.

Internoise 2018 also had a paper from Arup who have developed ambisonic auralisations of noise from proposed road schemes, and the Netherlands Aerospace Centre (NLR) has developed an aircraft noise simulator to demonstrate to communities proposed changes.

If this proposal is to proceed then the Applicant should be required to use these technologies to ensure that impacts are minimised.

2 The Noise Mitigation Plan (NMP) including the choice of relevant noise contours

In line with the Government's intention to reduce noise (Chapter 3 of Ref **7, aviation-2050-print.pdf**) they expect the airport must plan for future noise reductions, and this must reviewed periodically.
So the Applicant's Noise Management Plan (NMP) should show how the levels would be reduced over time, with 5 yearly commitments.

The document refers to good practice, such as Heathrow's trials of steeper approaches and departures, Gatwick's structured landing charges to incentivise quieter aircraft, Birmingham's raising height of noise preferential routes, and London city having higher fines for infringements and for it and Heathrow to have league tables of environmental performance.

The "Air Navigation Guidance: Guidance on airspace & noise management and environmental objectives", DfT, 2017, (**21 air-navigation-guidance-2017.pdf**) guides the CAA in assessing noise at different altitudes, and so the Applicant's Noise Mitigation Plan needs to include this Guidance, and have appropriate management systems to ensure that the Airport users actually comply with it.
The Guidance describes the Government's objectives and Section 3.3 includes:
"the CAA should keep in mind all of the following altitude-based priorities of the Government:

in the airspace from the ground to 4,000 feet the Government's environmental priority is to minimise the noise impact of aircraft and the number of people on the ground affected by it, particularly with regard to noise disturbance above 51dB LAeq16hr or 45dB Lnight;

in the airspace at or above 7,000 feet, the CAA should promote the most efficient use of airspace with a view to minimising overall aircraft emissions meaning that mitigating the impact of noise is no longer a priority;

where practicable, it is desirable that airspace routes below 7,000 feet should seek to avoid flying over Areas of Outstanding Natural Beauty (AONB) and National Parks; and

all changes below 7,000 feet should take into account local circumstances in the development of airspace structures, including the actual height of the ground level being overflown, and should not be agreed to by the CAA before an appropriate community consultation/engagement has been conducted by the airspace change sponsor."

I am very concerned that the proposed Noise Mitigation Plan (TR020002-002383-2.4) is worse than night flight regimes already rejected by Thanet District Council (TDC).

In 2009 Infratil, applied to TDC for permission to have scheduled night flights, and Infratil suggested a QC total for the airport of 1,995 and indicated that this QC total would mean an average of 7.7 flights a night. The QC was two thirds of the 3,028 QC points proposed by RSP nine years later.
TDC commissioned independent noise experts, Bureau Veritas, to assess the impact of Infratil's proposals on the community, and in November 2010 Bureau Veritas concluded that:
"Even with a sound insulation scheme for residents whose dwellings would be exposed to 57 dB LAeq,8h or more *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 bythe 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 Manston (MSE), normalised with respect to the annual passenger throughput, is greater than that at each***

***of the designated London airports**, 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.*
*In order to reduce noise impact on nearby residents due to individual aircraft movements, BV would recommend that **bedrooms of dwellings predicted to be exposed to 90 dB(A) SEL or more are also included in the sound insulation scheme**.*
*BV suggests an additional control to protect residents from noise impact during the whole night-time period, i.e. including the evening and morning shoulder-periods when the majority of night-flights are to occur. Imposing a suitable area limit for the **48 dB***
***LAeq,8h night noise contour would be an appropriate means** for controlling this.*"
"*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."*

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 3028 where Bureau Veritas thought that 1,995 QC points was unacceptable
• It has no ATM limit
• It is not proposing insulation for dwellings that would suffer 90dB(A) SEL unless they experience these noise events 18 times a night at least
• 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.

It should also be noted that the new WHO Guidance recommends 40 dB at night, not the 48 dB that BV recommended.

A toothless system of penalties

RSPs' proposed system for fining airline operators that do not abide by the night flight regime is insulting. 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.
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.

Heathrow is the busiest airport in the UK, but even so its Quota Count limits were reduced by over 40% to below 3,000 in the Night Flight Restrictions at Heathrow Gatwick and Stansted Decision Document DfT 2017 (Table 5). **(19 night-flight-restrictions-at-heathrow-gatwick-and-stansted-decision-document.pdf)**
The Government also stated (Paragraph 2.1) that: "it expects a ban on scheduled night flights of six and a half hours at an expanded Heathrow "
It went on to state that (Paragraph 2.3): " the environmental objective in our consultation document was to 'encourage the use of quieter aircraft to limit or reduce the number of people significantly affected by aircraft noise at night, while maintaining the existing benefits of night flights."

Manston has no 'existing benefits of night flights' so there is no case for starting any night flights now.

Also I strongly dispute that are any 'benefits of night flights' except for the convenience of aircraft operators.

The very welcome eight hour night period, as proposed by the Applicant, needs to be compared with the flight time and the surface transport part of a journey. The Applicant (NSIP Justification, ibid) refers to a 2.5 hour Turn Round Time, so the loading plus unloading time for any flight would be 2.5 hours, it also has the clearance time at each end of the flight (customs/immigration/health etc) and the travel time to and from each airport, so usually the eight hour night ban would be much shorter than the total journey time, with no real inconvenience to the recipient of the load.

'Humanitarian flights' are allowed so that allows the rare urgent care aircraft to operate.

The Government in its Night Flight Restrictions at Heathrow Gatwick and Stansted Decision-document DfT 2017 (**19 ibid**), said:
"4.14 Therefore, from October 2017, all movements that are currently exempt will count towards the airports' movement limits. These will all however remain QC/0 and be exempt from the noise quota limits.
4.15 From October 2018, the new QC/0.125 category will be introduced which will apply to the majority of exempt aircraft currently in operation at these airports. The delay in introducing the new QC category will provide sufficient time for industry to adapt to the changes we are making, while counting exempt flights towards movement limits will ensure there is no increase in the number of exempt aircraft operating at the airport in the interim period."
Hence ALL aircraft should be counted within the Movement Limit in the Eight hour night period, and the QC system should count down to the QC 0.125 which are 81 – 83.9 EPNdB.

I am also concerned that the Plan says: "
11.2 During the Day Time Period the operator of any departing aircraft that exceeds 90 dB LASmax at the relevant noise monitoring terminal will be subject to a penalty of £750 and a further penalty of £150 for each additional decibel exceeded above 90 dB LASmax.
11.3 During the Night Time Period the operator of any departing aircraft that exceeds 82 dB LASmax at the relevant noise monitoring terminal will be subject to a penalty of £750 and further penalties of £150 for each additional decibel exceeded above 82 dB LASmax. "
I query the use of LASmax, as that is a "Slow" measurement so averages out the Peak noise level, and it is the peak noise level which will wake people up or disturb them. The maximum sound levels is the highest time-weighted sound level and the "Slow" means it is measured over a 1 second time period, whereas Fast is measured over a 125 millisecond time constant.
It would make more sense and be more consistent and less confusing to use the same EPNdB as in the QC system it includes the tonality aspect of aircraft and which is also more correlated to the 'noisiness' of the aircraft.

So a Maximum of 90 EPN dB for dayt and 82 dB EPN dB for day would be more acceptable, but is still too high to avoid affecting people..

I also noticed that Part 2 of the Noise Mitigation Plan is a mess – the first QC column is variously listed as <54. <64, <84 and >84 and all the headings have a range of terminology which is meaningless.

It looks as if no one proof-read this, so please can I have proper copy?"

The Noise Management Plan does not appear to include having an airport charge to incentivise the use of quieter and lower emission aircraft. The CAA carried out a study in 2013 (**22 CAA, CAP 1119 Noise-related charging review.pdf**) and from that they suggested:
"**Good practice principles**
This study has highlighted a number of principles which I consider to constitute good practice in the setting of airport noise and emissions charges:

1. a) Noise charging categories should be based on ICAO certification data, to incentivise best-in-class.
2. b) Noise charging categories should of equal width, typically 5 EPNdB, or narrower, to ensure adequate differentiation of noise performance.

3. c) The noise charging categories used at a given airport should cover the full range of aircraft in operation at the airport. This range should be reviewed periodically and modif ied as appropriate.
4. d) Noise charges for operations occurring at night should be greater than those that occur during the day.
5. e) Where noise-related charge differentials occur depending on the time of day of an operation, the scheduled time of the operation should be used as oppose to the actual time. Penalties may be used to dis-incentivise operations scheduled to occur on the cusp of the night period that regularly fall into the night period.
6. f) There should be a clear distinction between noise-related landing charges and any non-noise-related charges, e.g. demand-related charges.
7. g) Charging schemes should ideally be harmonised across airports within the UK. Aircraft should be treated similarly from one airport to another, even if the charges at each airport are different. ”

I consider that introducing such charges would show that the Applicant is serious about managing the airport impacts and is trying to do its best to minimise them, so I expect the Applicant to provide a detailed proposal for Airport Charges, which should also include an environmental charge proportionate to maximum Take Off Weight, to encourage lower emission aircraft.
The income from these charges could reduce the other airport charges as well as being used for community benefits such as noise insulation.

I look forward to seeing the Applicant's proposals.

There is a proposal to try and reduce the number of planes coming into land over Ramsgate, that is in an East-West direction. However Pilots do not like to land with a tail wind because the pilot has less control of the plane. There are genuine safety issues with landing with stronger tail winds and it would be dangerous to land with a significant tail-wind component.
This is because the aircraft has to be flying faster (relative to the ground) to remain airborne and in control and in the air control is all about Airspeed. Thus when it lands there is more of a stress on firstly the tyres and then on the brakes as a result of the higher speeds involved because, now, Goundspeed is the order of the day. Most aircraft tyres are speed-limited by the manufacturers to avoid tyre damage.
So the norm is that above about 5 knots wind, they land into the wind, so the intention of reducing flying over Ramsgate may be good, but not realistically achievable so this should be made clear.

2. The use of aircraft quota count restrictions

3. **Cumulative effects of aircraft and road traffic noise**

Many aircraft fly over East Kent and there is no method of controlling their impacts on East Kent except by an airspace change, which is extremely difficult to achieve.
There are major changes coming to airspace in the South East, and the original NATS timetable for airports to consult in August 2020 has been delayed, and NATS is proposing a new “tube” network to which aircraft will fly from the relevant airport.
So the Applicant is unlikely to be able to agree airspace until long after the Examination is completed, so the actual noise impact on Kent cannot be properly examined before then.

So the examination of Manston needs to ensure that noise environment does not become any worse for Kent as a whole due to the addition of Manston's aircraft to the existing large numbers of over-flights.

5 Location of noise monitors

See also 2005 CPRE Kent Report (**24 KIA Manston RepOD2.doc**) in “Issue 7 below: **Noise impacts of previous airport operations”**, which makes clear that noise monitors need to be located to avoid existing high background noise.
The CAA (**24 Departure Noise Mitigation: main report [redacted])** shows that planes are now heavier and noisier, with some aircraft 400 feet lower- this increases noise by 2 to 3 dB, and that the steeper departure

reduces noise under the flight path but increased it for those to the side and the noise lasted longer, so noise monitors further away than the 6.5 km from start of roll, would help to manage this.
It would also be good practice to have monitors both under the flight path and to either side.

6 Outdoor and indoor impacts of noise

7 Noise impacts of previous airport operations

A professional report for CPRE Kent carried out by Capita Symonds in 2005, (**24 KIA Manston RepOD2.doc**) shows that the background noise levels from the small Fokker 100 passenger aircraft, caused significant noise. The Report said:

A noise survey of a sample of E U Jet aircraft using Kent International Airport – Manston was carried out on Friday 29th April 2005.
From position 3 close to the centre of Ramsgate the measured noise levels of aircraft passing overhead suggest that a large number of people may be disturbed by aircraft using the airport when considering the usual flightpath aircraft take over the town

With three measuring points the Background noise levels were measured, as in the Table 5.1 of the Report.

Position 1, west of the runway, was the site of the airport's own noise measuring location. The LA 90 varied between 57 and 64 dB. It should be emphasised that background noise levels at this location are significantly higher than most other locations to the west of the runway owing to the close proximity of the airport's noise monitoring equipment to the busy dual carriageway road A299, just 10 metres away.

An increase in aircraft traffic will lead to an increase in vehicle traffic on the A299 leading to the airport. Consequently an increase in aircraft traffic causing increased road traffic will also raise background noise levels at location 1.
During the background noise survey the strong wind from the direction of the road resulted in a worst case background noise level.

At the rural position 2 a location that is more typical of the general area road noise from the A299 was still the dominant noise, and the LA 90 varied between 46 and 49 dB. Reduced background noise levels could therefore be anticipated in the substantial area further from the A299 that is still close to the western end of the runway. From tables 6.3 and 6.4 it can be seen that passing aircraft produce noise levels substantially above background noise levels.

At location 3 in the urban environment of Ramsgate centre the lowest background noise level between 39 and 47 LA 90 dB was recorded, so there was also the greatest difference between background noise levels and noise levels from passing aircraft is shown in table 6.5. This difference will have a significant impact upon people's enjoyment of using the town's amenities, have an impact upon speech intelligibility and a detrimental effect upon the learning environment.
It can be seen when comparing background noise levels with the L_{eqT} overflying aircraft noise measurements noise levels are increased by up to 30dB A. To quantify this further an increase of 10dB A is the equivalent of a doubling of noise perceived by the human ear.

Since aircraft on flightpaths to the east of the runway either land or taking off generally take a route across the centre of Ramsgate much of the town will experience noise levels similar to those measured. Although there are various methods of assessing disturbance from aircraft in the vicinity of airports the measured noise levels at position 3 would indicate that a large number of residents are likely to be affected by noise from aircraft using the airport.

Frequency analysis was also carried out and Chart 1 showed the third octave frequency spectra of a Fokker F100, E U Jet passing overhead immediately after take-off heading north west when measured from position 2,

and Chart 2 showed the third octave frequency spectra of a Fokker F100, E U Jet passing overhead on the landing approach heading north west when measured from position 3.

A prominent tonal component can be identified in the third octave spectra if the level of a one-third octave exceeds the level of the adjacent bands by 5dB or more.

Chart 2 suggests that there is a prominent tonal component in the low frequency spectra at 32Hz. Whilst no other tonal components can be identified in the third octave spectra a distinct low whine can be heard from these aircraft

The two charts show there is some variation in the shaping of the frequency spectrum between the measurements taken for the aircraft shortly after take-off and the aircraft on the landing approach. Common to both sets of analysis is the fall off in frequency levels only at the higher end of the spectrum somewhere in the range of 4,000Hz and 8,000Hz. Speech generally occurs within the range of 250Hz and 4,000Hz so it can be seen that speech intelligibility will be disrupted at the recorded levels without people raising their voices. In turn this is likely to spoil peoples enjoyment of the local amenities and is likely to have a detrimental effect upon those in a learning environment as discussed further on in this report.

The noise levels measured suggest that people enjoying the amenities such as public footpaths and Monkton Nature Reserve in the relatively tranquil rural area to the west of the airport runway are likely to be disturbed by the increase in background noise levels caused by aircraft.

It should be noted that these effects were noted for a small passenger aircraft so larger aircraft or cargo aircraft would be much worse.

8 Limitations and uncertainty of noise modelling

The Heathrow Terminal 5 Inquiry heard a lot about noise, especially about the inadequacy of the A weighted Leq and the the Inspector made some very pertinent remarks on this **(ibid under issue I, Noise 1, above, ref: 18 the_quiet_con hacan.pdf).**

J Operational issues – to include: :

1. Operational relationship to, and progress with, the Airspace Change Process

In the past decade airspace change proposals have raised very considerable concerns and received many objections. That has shown that people do not notice a decrease in noise as much as they do an increase. One of the disadvantages of the Performance Based Navigation (PBN) system is that it narrows the flying corridors, so that people on the centre line of the PBN route receive many more planes overhead in contrast to earlier systems where aircraft were spread over a wider swathe. As a consequence of the concerns and the very restricted available airspace over the UK because we have so many planes it has taken longer than expected to agree new routes. So I consider that agreeing new flightpaths for Manston is a considerable risk, and it could significantly delay the Proposal, with all the consequent effects of that. While the ExA may conclude that the proposal is otherwise viable for a DCO, I would strongly recommend that the ExA recommends that the Secretary of State (SoS) only gives formal approval after this issue, and any other issues not determined in the Examination, are resolved to the SoS satisfaction.

2. Air Traffic Movements

3. Progress with Aerodrome Certificate

4. Night flights

See section on Noise Management Plan above

If there should be night movements, has the issue of increased nocturnal HGV and other vehicle activity needs to be considered

5. Phasing
6. Safety and security
7. Customs and immigration
8. Major accidents and incidents
9. Aerodrome safeguarding

K Other environmental issues - to include:

1. Baseline data
2. **Identification of worst case scenarios**

RSP refer to Gatwick's single runway 282,000 aircraft movements in 2017 (Para 20, RSP's Document TR020002-002382-2.3 - NSIP Justification),showing that Manston's single runway would not be a restriction on flight numbers. Although it goes on to say that Manston's existing taxiway, would halve that number, the Application describes a new taxiway being built to avoid that restriction.
Hence Manston's runway actual capacity with the Proposal would the same as Gatwick, namely 282,000 movements.
This means that the impact assessments would have to be based on this number as "worst case".

RSP also use the capacity of the aircraft stands as a factor limiting maximum capacity., but I dispute the NSIP Justification (paragraph 22) for a minimum of 2.5 hours to turn around at cargo stands. I have found evidence of times as short as 45 minutes, and that was over a decade ago, (**25** [redacted], with a current 50 minutes at Heathrow for Airbus A 319 and 80 minutes for an A321 ([redacted]) and obviously there is a great variety depending on how full aircraft is etc. Bearing in mind modern technology, see for example Virgin's use of computerised tools, [redacted]", (**26 130425-Virgin-FV-2.pdf**) an average of below two hours should be easily achievable, especially with a new airport actually designed for minimum turn around time. So 16 movements a day aircraft per stand or 304 movements per 16 hour day.
This gives 110,960 ATM's a year for cargo only, with the possibility of 282000 – 110960= 170840 passenger/other ATMs.

Likewise I dispute that ATMs will only be for cargo- the Application states (d DCO APP-006, Schedule 1) that there will 19 Code E, 3 Code C and 4 Code C stands a total of 26 Stands.
So given that these other stands are likely to be passenger oriented (ExQ1 OP1.11 answer will clarify this), then a turn-round of 1 hour means that the 16 hour day can take 16 atms per day or 26*16*365= per year.
So this calculation totals 151,840 ATMs per year, with only flights in the day.
Thus RSP's total of 83,220 maximum for day ATMs is significantly below the actual capability.

Even if a Condition preventing additional stands being built is applied to the grant of the DCO, as it should be, then there would also needs to be a cap on ATMs at 17,110 ATMs in the day (total of cargo+ other flights) if the RSP is to guarantee that this ATM limit will not be exceeded, in order to ensure that environmental limits were achieved.

Otherwise the environmental impacts should be assessed at 282,000 if there no conditions on stands or ATMs, 151,840 daytime ATMs per year for a capped number of 26 Stands, and if night flights ATMs are to be uncapped then add the 75,920 ATMs at night as well.

The calculations do not assume that an even faster turn round could be achieved (which is likely bearing in mind the pressures for improvements), but the turn round values are conservative and could be even shorter, but the values used allow for other factors on the ground delaying flights.

This is especially important as the commonly used noise parameter Leq is an *average* noise level, so more aircraft will increase the Leq, even if the maximum noise level does not increase.

RSP say (Para 28, TR020002-002382-2.3 - NSIP Justification) that: “It is no more than a very remote possibility that the airport will operate at its theoretical maximum capability”.
I agree, but I do not consider that even 10,000 cargo ATMs will be achieved, but if there are no caps on ATMs, as RSP wants, then the impacts must be assessed on the maximum possible, because there would be nothing to stop Manston expanding as much as it wants if the future is very different to expectations.

RSP also argues, (Para 31, TR020002-002382-2.3 - NSIP Justification) that: “a cap would not limit aircraft noise as it could be taken up by aircraft that were noisier than those that have been assessed”. So here again the simple answer is to assume true worst case, and assess impacts on the worst aircraft allowed to land given in the Noise Mitigation Plan Appendix. It may be that the noisiest is not the least efficient, so the Climate Change impacts would need to be assessed on the least efficient aircraft.
RSP are perhaps thinking that in Year 20 silent electric aircraft might be in regular use, but in that situation the airport could apply to Thanet Council for permission to increase the number of permitted ATMs, which would be likely to be permitted if all other factors (eg road traffic etc.) were acceptable.

There are several possible combinations for the “worst case” scenario, but the maximum possible ATMs should be used to assess the consequent number of HGVs, Vans, etc.
The three aircraft scenarios are:

1 the maximum ATMs with smaller noisiest, least efficient freight aircraft, which has implications for noise as people's annoyance increases with number of flights, even if the *average* noise level, Leq, doesn't increase very much.
It also means that more HGVs or vans would be needed than for larger aircraft, because a 20 tonne HGV may be able to take load off one aircraft, but only if the load can be taken by one operator, and it is more likely that a diverse load will be collected or delivered by more than two or more vehicles.

2 the maximum ATM's made up of the largest, noisiest and least efficient cargo aircraft, which yield the highest tonnage and most HGVs and Vans.

3 the maximum ATMs with the largest, noisiest and least efficient passenger aircraft and 10,000 largest, noisiest and least efficient cargo ATMs (to meet the NSIP Justification) would yield more car traffic but fewer HGVs and vans.

If any Night flights are permitted then the ATMs need to include the maximum night ATMs.

The impacts of these aircraft would also need the associated impacts on surface transport, assumming maximum loads for each aircraft, noise and climate change impacts etc., to be assessed.

Manston, unlike the main UK airports, is not connected to the national pipeline system, and so fuel would need to be delivered by road. The traffic worst case for fuel deliveries could assume that a road tanker can carry up to 40,000 litres of kerosene. The number of road tankers will depend on the Maximum number of ATMs, the fuel efficiency of these aircraft assuming Maximum Take Off Weight (MTOW), and the routes being flown. The European Environment Agency (EEA) publishes ‘Corinair’ data on aircraft fuel consumption by aircraft type and by distance flown, so that worst case figures can be obtained.

3. Cumulative effects, including the relationship to the proposal by Vattenfall Wind Power Ltd
4. Effects of construction, operation, maintenance and decommissioning methods, including waste and soil management
5. Approach to mitigation and monitoring
6. Opportunities for enhancement

7. **Flood risk**

The Applicant's documentation seems only concerned with flooding on and from the site itself, and does not consider flood risk around Thanet.

However the records show (Thanet Stage 1 SWMP - Appendix C, in KCC Library) that in 1953 the Wantsum channel was flooded and the roads and railway to Thanet were out of action for some three days, and it took six months or so before they were reinstated. The level of the event (still water) was approximately 4.8 metres above Ordnance Datum. Upgrades of sea defences were of course carried out, but these would have been only to the standards at that time, and as the information below shows, the flood risks are now much higher, and can be expected to increase, for example if all the Greenland ice melts the sea level could rise by seven metres (**27 Greenland Ice melt.rtf**).
In addition the Committee on Climate Change report [redacted] **(28 Managing-the-coast-in-a-changing-climate-October-2018.pdf)** shows the increasing impacts of climate change on our coastal areas and that far too little is being done about it.

The Government provides flood risk factors for various climate scenarios (see: [redacted] and Table 3 shows the sea level allowance for each epoch in millimetres (mm) per year with cumulative sea level rise for each epoch in brackets (use 1990 baseline)

[redacted]	**1990 to 2025**	**2026 to 2055**	**2056 to 2085**	**2086 to 2115**	**Cumulative rise 1990 to 2115 / metres (m)**
					1.21 m
East, east midlands, London, south east	4 (140 mm)	8.5 (255 mm)	12 (360 mm)	15 (450 mm)	

I do not have the figure for sea level change between 1953 and 1990 but adding it and the the heights above to the 4.84 metres above Ordnance Datum shows the vulnerability of Thanet.

The section: 'High++ allowances for peak river flood flow and mean sea level' says:
“The high++ allowances will only apply in assessments for developments that are very sensitive to flood risk and with lifetimes beyond the end of the century. For example, infrastructure projects or developments that significantly change existing settlement patterns. This includes urban extensions and new settlements.
The high++ allowances are in Environment Agency guidance [redacted].”

Hence the Isle of Thanet is a highly inadvisable location for a scheme which has to have good road road access both in and out of Thanet.
In contrast, although I do not agree with all of the Stone Hill Park proposals, they do include retaining the runway, which could be used for emergency helicopters etc., in a flood situation, as well as retaining and improving all the ancillary and historical aviation parts, but without the noise and emissions of RSP's proposals..

With regard to impermeable areas, TR020002-002422-5.2-8 - Environmental Statement - Volume 8 - 1 of 3 - Appendices 8.2-8.3, Appendix 9.1 Part 1, RCEF54574-004 – Drainage Strategy document says:
“5.4 The *Proposed Development* will impact the existing breakdown of areas, as there will be a need to construct on existing greenfield area. Post-development, the overall impermeable area within site would be 169.479 ha (55.90%) with a remaining permeable area of 133.707 ha (44.10%).
5.5 The permeable area will consist of existing greenfield and soft landscaping.
7.13 The *existing* site, with an area of 303.186 ha is 32.62% impermeable. ”
This means that existing site has 98.9 ha impermeable area compared to the proposed 169.479 ha, which is an increase of 70.6 ha.
Apart from the increased run-off from this increased impermeable area it also means loss of the carbon absorption of the previous permeable area, so this loss needs to be added to total carbon emissions in the Climate Change section.

8. Impacts on land and water quality, including effects on the aquifer and drainage discharge to designated nature conservation sites

9. Public health, including mental health, including of night flights and cumulative effects

The ExA is already aware of CPRE's Tranquillity work **(29 www.cpre.org.uk/what-we-do/countryside/tranquil-places)** which shows the importance for public health of tranquil areas.
This is also supported by the work of the UK National Ecosystem Assessment (http://uknea.unep-wcmc.org/). who estimated that the health benefits of simply living near a green space could amount to as much as £300 per person every year. They have produced a Handbook for decision-makers (**30 HandBook_final.pdf**)which includes section: "6.2 Risk management for a potentially contested environmental policy on the drawing board" which may be helpful for the Examination.
The UK National Ecosystem Assessment Follow-on: Synthesis of Key Findings (**31 UK National Ecosystem Assessment FO Synthesis.pdf**) may also be helpful as it says (Section 2.3, page 52): "For decisions to be both robust and efficient, they should avoid appraising pre-determined options, instead, allowing the characteristics and corresponding values of the real-world to determine the best use of scarce resources. …. The Integrated Model (TIM): a programmed system that links a series of modules together to assess both the drivers and consequences of land use change".

10. Buried munitions, Unexploded Ordinance (UxO) and other military material

L Socio-economic issues – to include:

1. Effects on the tourism/ holiday trade

The Tourism Deficit, that is the difference that people from the UK spent abroad and the people from outside the UK spent here, is large because so many people fly abroad, and providing more air transport tends to increase the deficit.

The deficit was £16.9 billion in 2015 – which was 17.6% of UK total balance of payments deficit (ONS), and stood at £21.3 billion in 2016 ([redacted]).
By coincidence, this is almost equal to the £22bn total contribution that the government calculates the air transport and aerospace sectors combined make to the UK economy (**32 next-steps-towards-an-aviation-strategy.pdf**).

The most recent data from ONS for 2017 (**33 Travel trends 2017.pdf**) says:"Travel Trends:
There were 39.2 million visits by overseas residents to the UK in 2017, 4% more than in 2016.
There were 72.8 million visits overseas by UK residents in 2017, an increase of 3% when compared with 2016.
Overseas residents spent £24.5 billion on visits to the UK in 2017, and UK residents spent £44.8 billion on visits overseas in 2017.
The most frequent reason for visits was for holidays, and Business visits decreased in 2017, both for UK residents visiting abroad and overseas residents visiting the UK."
and it says:
"The reported spend for visits include any spending associated (excluding fares) with the visit, which may occur before, during or after the trip."

The decline in business journeys reduces the economic value of flights, and the £20.3 bn deficit shows that aviation continues to be an economic drain on the UK with the consequent loss of community benefits.

Tourism bodies often promote the economic benefits that tourism brings, and the US Government's Bureau of Tourism claimed that every 33 inbound tourists' spending creates or supports one job in USA. Obviously each country is different, but if we turn that around we can see that having 33.6 million more tourists going abroad rather than coming in is equivalent to exporting the equivalent number of jobs from the UK – in this case it could be one million jobs lost to the UK.

3. Estimates of employment generation

I have particular doubts about the employment forecasts projected by the applicants. Employment projections claimed by previous owners of Manston were all greatly overstated and the current forecasts are not convincing.

A problem about air transport jobs is that from the Government downwards, those in the business quote misleading figures. For example, the Aviation Strategy, *Aviation 2050,* (**34 aviation-2050-print.pdf**) exaggerated the economic benefits to the UK.
The second paragraph of the Aviation Minister's Foreword says "*Today we have the largest aviation network in Europe and the third largest in the world, an industry that contributes at least £22 billion to the UK economy, along with over 230,000 jobs."*

It conflates air transportation with aerospace industries. Aviation employment is defined in the ONS Annual Business Survey ('ABS') as the combination of '*Air transport*' (SIC 51) and '*Service activities incidental to air transportation*' (SIC 52.23).
This same definition applied at the time of the 2003 '*Future of Air Transport*' White Paper which stated that aviation provided 200,000 direct UK jobs.
By 2011 this had – according to the DfT – fallen to 150,000 UK jobs, using the two categories SIC 51 and SIC 52.23, as reported in the ABS.

The latest available ABS data shows the aggregate of employment categories SIC 51 and SIC 52.23 (i.e. total direct aviation jobs) to be 124,000. This is 0.4% of all UK jobs which has fallen from 0.7% in 2003.

124,000 aviation jobs is just over half (54%) of the industry employment figure of "*over 230,000 jobs"* claimed by the 2018 Green Paper.

So it is perhaps not surprising that the industry follows the Government and inflates employment figures.

Another source is AVI0203 Worldwide employment by UK airlines (**35 avi0203.ods**), which shows that employment in 2007 of 85,864 had decreased to 79,464 in 2017, and the decrease was caused by loss of maintenance, tickets and other personnel, with only pilots increasing by a thousand, so that suggests that apart from pilots other staff are declining and likely to continue to do so with increased use of IT.

I would still recommend the former senior Treasury officer, Brendon Sewill's report "Airport jobs: false hopes, cruel hoax', (**36 Airport_jobs_false_hopes_cruel_hoax_March2009_AEF.pdf**) highlights that the"Claims that airports create 'indirect', 'induced' and 'catalytic' jobs are based on dubious statistical concepts." and that "Between 1998 and 2004, despite a 30% rise in air passengers, the total employment attributed to airports and airlines actually went down."

Over many years of looking at reports on the economic and employment benefits of expanding air transport, the ones promoting expansion invariably include large indirect benefits and so promote a promising overall benefit.

In contrast the C E Delft's Report "The Economics of Airport Expansion" (**37 CE Delft - The Economics of Airport Expansion.pdf**) concludes:
"This study provides a transparent framework for (social) cost benefit analysis of airport expansion and new airport development projects. It is extremely important that all types of effects are included in the Cost Benefit Analysis (CBA) *and to avoid any double counting by including indirect effects*. This means that considerable effort is needed to evaluate the type of effects that can be expected to occur and to appropriately include them in the CBA.
Many studies find a positive correlation between aviation and economic growth, but no causal relationship between connectivity and economic growth was found. The positive effect of aviation on economic growth appears to be stronger for remote and poor regions than for central, well-developed ones. It is not clear whether this effect is truly additional, or whether regions with airports grow at the expense of other regions."

So this is saying that there is no causal relationship between connectivity and economic growth, and where a

relationship is found it is stronger for remote and poor regions, but even this effect can be from taking activity from other regions.

Obviously an airport does create some jobs – and a broad brush estimate of jobs relative to ATMs is by dividing UK ATMs by the number of UK air transport jobs: for 2017, there were 3,099,000 ATMs so the 124,000 jobs equates to 25 ATMs per job, or for the 10,000 cargo ATMs proposed there could be 400 jobs.

As for the airports own staff, sadly cargo aircraft do not need as many staff as for passenger craft because cargo aircraft may bring their own unloaders/loaders with them, as occurred previously, and cargo does not need refreshments, toilets and other ancillary services which need staff. Even the trucks nowadays have their own forklifts or cranes on them, minimising the need for staff at the airport.

I recognise Thanet urgently needs to increase its employment offer but I query that the airport operations described by RSP can be the solution it claims to be, particularly in the light of the impacts on residents and tourism.

If the claims were achieved it could adversely affect East Kent by distorting the local employment market, increasing housing and infrastructure needs and increasing costs for existing employers.

2. Scope for local employment
3. Cumulative effects regionally in South East of other proposed airport developments
4. Scope for training and education schemes

5. **Scope for agreements to provide benefits for Communities**

I contend that community benefits are so small compared to the impacts, that they do nothing to reduce the detriment to the community.

An aspect that reduces any supposed benefit from the airport is that Aviation does not pay its fair share of taxes - for example there is no fuel duty nor VAT on aviation fuel, and this means that the Government loses around £10 bn a year, with Air Passenger duty raising around a third of that around £3.3 bn (**39 www.statista.com/statistics/284345/air-passenger-duty-united-kingdom-hmrc-tax-receipts/).**

Aviation also benefits from other tax exemptions such as the Purchase and maintenance of aircraft which are zero-rated for VAT, an advantage not available to surface transport. [and can reclaim any VAT that is paid.]

Brendon Sewill's historic assessment of aviation, "The Hidden Cost of flying AEF 2003" (**38 Hidden Cost Final.pdf**) and its later update "The Hidden Cost of Flying Supplement *April 2003"* (**39 Hidden cost Supple Econ inst2.rtf)** highlights the loss to UK taxation and therefore the loss Community Benefit.

External costs are the costs caused by an activity, such as damage caused to roads by HGVs but they pay some road tax. The external costs of aviation are not incorporated in taxes, and although Air passenger Duty is intended as a proxy from emissions, it is too small compared to all the external costs.

"The Dutch report [redacted] . *CE Delft, June 2018* (**40** [redacted] they say:

"In all the variants the aviation tax has a modest positive impact on Dutch economic welfare, GDP and CO2 emissions. This holds for both background scenarios.
The impacts of the aviation tax are relatively modest. This is because the tax itself is likewise fairly modest (several percent of the average ticket price) and because of the serious capacity restrictions at Schipol Airport, in particular. Without an aviation tax, these restrictions lead to higher profits for airlines. The tax will be paid for largely by the airlines from these higher profits.
As a result of the capacity restrictions, an aviation tax will not lead to fewer flights but to a shift in traffic segments (passenger/freight, OD/transfer, European/intercontinental destinations). This means the tax will have only a modest impact on CO2 and particulate emissions and noise.
Given the revenues accruing to government, in all the variants and scenarios the tax, in the form investigated,

will increase overall economic welfare. These welfare gains stem mainly from some of the tax revenue coming from foreign airlines and passengers, and because depressed demand due to the tax will lead to alternative, non-aviation consumption expenditures (in the Netherlands) that are taxed."

The ExA cannot create taxes, although it can make recommendations to the Secretary of State which would be welcomed, but the ExA can recommend as a condition of approval that the airport levy appropriate charges on those who use its facilities. So the ExA can decide that the airport should levy charges on aircraft that relate to the following:
Noise charge, based Quota Count level
Night use charge: for all flights between 2300 and 0700 hours
Emissions charge: based on maximum take off weight
Plus the airport operators own charges for use of the airport.

These charges would be legal because they do not involve a charge or tax on the aviation fuel, which is currently illegal (see: [redacted] **(41 CE_Delft_7L14_A_study_on_aviation_ticket_taxes_DEF.pdf)** especially page 3, "an aviation ticket tax can withstand legal challenges if it is not linked to fuel consumption and if it does not differentiate rates within the EU."

Impacts on other developments in Thanet
A major downside of noise from the new airport is that it would blight some areas within Thanet, and possibly in Canterbury and Dover districts, and prevent, for example, housing because of the noise.
See for example, the refusal of housing near a quarry because of existing noise (**42** [redacted]).

Hence I consider that alternative uses for the site would create more benefits with much less damage.

I have concerns about the inequality of the proposals which would benefit the better-off but have a disproportionately negative impact on the less mobile and less well-off, in an already very deprived area of Kent, as shown in the 2001 CPRE Kent report (**1 Manston Final.rtf**).

6. The possible existence of war graves

M Traffic and transport – to include:

1. **Strategic transport modelling, including the traffic effects of the Proposed Development on the local and national road network, notably the M2/ A2 corridor and cumulative impacts with other proposed developments**

The Lower Thames Crossing is a government scheme so likely to go ahead – and this will increase traffic in Kent, especially East Kent.
Many people have long been critical of the high risks associated with depending on one port, Dover,for around 60% of the UK's RO-RO freight traffic. Adding Manston would simply increase the risks of disruption to that traffic.
If the Manston proposal is added, the road system would become even less efficient, with greater negative impacts because congestion would greatly increase from both Manston and the Dover and Ramsgate crossings. It is well known that building new roads or increasing capacity on existing roads does not reduce congestion, it simply generates more traffic. See: CPRE's "The end of the road? Challenging the road-building consensus, 2017' (**43 TheZendZofZtheZroad.pdf**) which shows how this has been known for decades – but ignored.

So Manston and the proposed road improvements would increase congestion on these roads to the detriment of Kent.

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