

January 14th, 2010

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Dear Terry

Lydd Airport Action Group - Response

Fourth set of Supplementary Environmental Information - Planning Applications: Y06/1647/SH (new terminal to accommodate up to 500,000ppa) and Y06/1648/SH (runway extension - 294m extension plus 150m starter extension)

Rejection Maintained:

LAAG believes the planning applications - Y06/1647/SH and Y06/1648/SH should be rejected. The fourth set of Supplementary Environmental Information (SEI (4)) does not change our view and LAAG stands by the comments made in our original response dated April 26th 2007 and in our responses to the first, second and third sets of Supplementary Environmental Information (SEI (1), SEI (2) and SEI (3)) dated respectively November 15th, 2007, October 24th, 2008 and April 7th, 2009.

Officers Report and Habitats Regulations:

We note Shepway District Council's Officers Report published July 1^s, 2009 which recommended that both the planning application for the runway extension and the new terminal should be rejected and its particular reference to the importance of the Applicant's failure to satisfy the Habitats Regulations and prove that the development would not have an adverse impact on the European habitats that surround the airport/runway. Most of the new information produced in SEI(4) has been submitted to counter this conclusion. None of the evidence achieves this objective, i.e. Lydd Airport remains unable to prove that the development of the airport would not have an adverse impact on the European Sites that surround its runway/airport.

LAAG Objections are broadly Based:

Although LAAG agrees with the reasons given in the Officer's Report for rejecting the planning application, we believe the case against Lydd Airport's development is more broadly based. We refer you to the summary sent to Shepway District Council dated June 8th, 2009.

Outstanding Information:

As discussed in our previous submissions, there remains outstanding information relevant to the planning application that ought to have been included for assessment before the completion of the Officers Report. Apart from the upgrading of the Biodiversity Action Plan, none of the submissions in SEI(4) addresses the remaining outstanding issues referred to in our previous submissions. We query why Shepway

District Council has invited comments from Lydd Airport after the publication of the Officer's Report when this pertinent information remains outstanding.

New Flight Paths and Need for Reassessment:

LAAG also draws your attention to relevant new information. Lydd Airport has been granted approval by the CAA (August 27th, 2009) for new RNAV (GNSS) (Area Navigation (Global Navigation Satellite System)) instrument approach procedures (flight paths) to both runway 21 and runway 03. LAAG believes the new flight paths necessitate a reassessment of most of the key issues relevant to this planning application - noise, pollution, nuclear safety and the economic benefits.

Further Downgrade in Employment Prospects:

In assessing the impact of the new flight paths we have provided a fuller analysis of Lydd Airport's poor operational viability and equally poor outlook as an employer. Indeed, we now believe the employment prospects at Lydd Airport are even worse than we earlier envisaged.

Comments on the new flight path information and SEI(4) are shown in sections 1.0 - 6.0.

1.0: New Flight Paths

Summary and Conclusions

- **The new RNAV approach procedures give Lydd Airport an instrument approach to runway 03 for the first time – but this can only be used when the Lydd Range is closed. As a non precision approach it is inferior to an Instrument Landing System (ILS) procedure.**
- **Runway 21 now has three instrument approaches. The ILS approach is likely to continue to be the procedure of choice in the foreseeable future due to its greater precision.**
- **The RNAV approach procedure for category C aircraft (for example, B737, A319) for runway 21 is 14 degrees offset from the centre line compared to the existing 5 degree offset ILS procedure. The RNAV approach requires a higher degree of manual input to bring aircraft onto the centre line than the existing 5 degree offset ILS procedure. The incidence of missed approaches and go-arounds is likely to be higher on the RNAV approach than the existing ILS.**
- **In the event of an aircraft emergency on approach, the RNAV approach procedure to runway 21 could put aircraft significantly closer to the Dungeness nuclear power complex than the current ILS approach.**
- **The new RNAV flight procedures/flight paths have different noise, pollution and safety profiles to the existing procedures/flight paths. These have not been assessed.**
- **The new RNAV approach procedure for runway 21 provides an alternative to the existing ILS approach procedure, but without moving the ILS localiser aerial, neither procedure will permit use of the full**

length of the extended runway 21 for landing. These shortcomings negate the reason for seeking approval for a runway extension.

- **A new ILS procedure would involve the localiser aerial being moved which could have environmental consequences. It would also require concessions from the MOD as there would be further encroachment into the Hythe Military Range.**
- **Failure to obtain a new ILS procedure for runway 21 would further compromise the commercial future of Lydd Airport as aircraft such as the B737/A319, for which the extended runway is designed, would not be able to utilise the full runway extension using the existing ILS.**
- **Lydd Airport's employment prospects are likely to be materially lower than the estimates provided by Lydd Airport. The airport has major operational constraints which will make it difficult to attract customers. This applies particularly if it fails to redesign the ILS on runway 21 to allow it to fully utilise the extended runway. Further, the customers it attracts are likely to be low cost operators where the numbers employed per standard unit of passenger throughput are lower than that for a full service carrier.**

Recommendations

- **Redo noise and pollution studies to take account of the new flight paths.**
- **Revisit the crash damage safety case through the Nuclear Installations Inspectorate (NII).**
- **Seek clarification from Lydd Airport as to whether it proposes to apply for a re-design of the ILS procedure so that it can utilise the extended runway. The operational viability of the airport would be further reduced if a new ILS were not secured, while the environmental consequences of the installation of a new ILS localiser aerial should be assessed before the planning application is determined, if one were to be secured.**
- **The economic case for Lydd Airport should be re-appraised to take full account of Lydd Airport's operational shortfalls.**
- **Lydd Airport should provide an overdue base case - an analysis as to why passenger numbers have been consistently lower than 5000 ppa for the last 10 years and why Lydd Airport needs to extend the runway when it is still only operating today at less than 1% of its current terminal and runway capacity of 300,000ppa and less than 2.0% of the Aviation White Paper's assessment of its likely projected operating capacity of 125,000 in 2030.**
- **Lydd Airport should clarify whether there will be a complete restriction on fixed wing aircraft movements at night time or whether the restriction only applies to commercial passenger movements, implying cargo operations would be permitted.**

1.1: Background

On August 27th, 2009 the CAA formally approved RNAV (GNSS) (Area Navigation (Global Navigation Satellite System)) instrument approach procedures (flight paths) to both runway 21 and runway 03. The 3 CAA charts are shown in **Appendices 1a, 1b and 1c**. They are:

- 1) Landing procedure (flight path) for runway 03 for all categories of aircraft
- 2) Landing procedure (flight path) for runway 21 for Category A & B aircraft (=up to Dash 8 turboprop size)
- 3) Landing procedure (flight path) for runway 21 for Category C aircraft (B737 etc)

There are a number of operational points to note:

(a) Lydd Airport will now have an instrument approach procedure for both runways - runway 21 and runway 03 - whereas previously it only had an instrument approach to runway 21. There will now be three instrument approach procedures to runway 21, as opposed to two in the past (the 5 degree offset Instrument Landing System (ILS) plus a 22 degree offset Non-Directional Beacon approach), and one instrument approach procedure to runway 03, as opposed to none in the past.

(b) The RNAV approach is a non precision approach procedure, which does not provide guidance to the pilot on the height of the aircraft, whereas the ILS is a precision approach procedure, which provides both vertical and horizontal guidance. The RNAV approach is very new in the UK and although RNAV procedures may replace ILS procedures in the longer term as the technology is refined, the ILS approach will remain the procedure of choice for the foreseeable future because of its greater precision.

(c) The Runway 21 RNAV procedure at Lydd Airport is offset 14 degrees from the centre line and is inland of the current ILS approach (flight path). RNAV procedures for category C aircraft (for example, B737/Airbus 319) can be approved with an offset up to 15 degrees which means the offset at Lydd Airport is close to the limit. This is another non standard flight procedure. The existing ILS is offset 5 degrees - already at the outer limit of ILS specification.

(c) The runway 03 RNAV procedure is offset 5 degrees west of the centreline. Since it passes through the Lydd Range Danger Area, this approach procedure can only be used when the Range is not active.

(d) The new RNAV procedures are bound by the same constraints as the existing ILS - activity at the Lydd and Hythe Military Ranges and the prevailing wind directions. As with the ILS, activity levels will be higher on runway 21 since landing on 03 is prohibited when the Lydd Military Range is active - 300 days of the year. The prevailing wind direction also favours activity on runway 21. Since the airport is not proposing to fly at night the 03 procedure could only be used for approximately 65 days or 18% of the year and since the majority of the winds are westerly ~70% and favour runway 21, aircraft will only use the 03 approach for circa 20 days. (Note, it is not practical to use 03 during “down time” within days.) During the 300 days of the year when the Lydd Military Range is active, large aircraft such as a B737 will be forced to land on runway 21 irrespective of the wind direction with the associated implications for go-arounds, cancellations and diversions.

1.2: What are the implications of these new flight procedures?

(a) The new flight procedures/flight paths will have different noise and pollution profiles to the existing procedures/flight paths which need assessing.

(b) The RNAV approach to runway 21 is 14 degrees offset from the centre line compared to 5 degrees for the ILS. There will be almost three times as much turn required to align the aircraft with the centre line of the runway. This means another dimension of manual input and a greater probability of missed approaches and go-arounds than experienced using the existing 5 degree offset ILS procedure - the latter in turn having a greater probability of go-arounds than would be experienced with a standard ILS. This applies particularly to Lydd Airport as aircraft will frequently be forced to land in a tail wind because the Lydd Range is active for 300 days of the year. Go-arounds increase the level of activity in the vicinity of the airport with consequences for residents, the environment and nuclear safety.

(3) The increased manual input by pilots on landing plus the higher incidence of missed approaches and go-arounds raises the incidence of crash damage at Dungeness. The RNAV approach to runway 21 could put aircraft significantly closer to the power station than the current ILS approach. For example, if the crew of an aircraft on a go-around determine that the aircraft cannot follow the right turn required by the missed approach procedure and they are forced to fly straight ahead, and this occurs at a time when D044 (Lydd Range) is active, the crew may decide that it's better to turn slightly left in order to clear the edge of D044. If they do this they will fly very close to, or directly over, the Dungeness nuclear power complex.

1.3: Why has Lydd Airport applied for these new procedures?

Lydd Airport has major operational disadvantages. The airport is surrounded by restricted aerospace, it has no ILS on runway 03, and the ILS on runway 21 is non standard. Further, the airport is on record as stating that they will NOT be relocating the ILS localiser aerial as part of the runway extension project. Consequently, in order to meet international standards for the minimum distance between the runway threshold and the point where the ILS guidance beam crosses the extended centreline of the runway, the airport will have to declare the first part of the extended runway as not being available for landing. To fully utilise the extended runway the airport must upgrade its ILS procedure on runway 21 which means relocating the ILS localiser aerial.

The RNAV procedures mean Lydd Airport can demonstrate that it has an instrument approach procedure to runway 03 and another instrument approach to runway 21 which is superior to the NDB approach. However, the new RNAV approach to runway 21 does not overcome the airports inability to utilise the full length of the extended runway unless they withdraw the ILS. A runway can only have one designated runway threshold, so even though the RNAV approach should allow use of the full length, the airport can only declare the distances based on the design of the ILS approach ie The reduced runway length caused by the ILS configuration will also apply to aircraft using the RNAV approach to runway 21 so the new approach procedure will not give any advantages in that respect.

Since the airport will not be able to declare the full length of the runway as being available for landing, this will seriously impede the commercial attraction of Lydd Airport because of its reduced operational viability, negating the purpose of the extension. For example, operators of larger aircraft such as the B737 and A319, may not be able to land with a full payload on the truncated available runway in certain weather conditions.

The RNAV approach does have one advantage over the ILS approach. It has a much less cumbersome arrival/initial segment, so that aircraft, particularly those arriving from the west, don't have to fly all round the houses via ROMTI etc. They fly direct to SORDI or LONRU, which cuts out a lot of track miles and therefore time and fuel. Therefore pilots may well choose to fly the RNAV approach in preference if the weather permits.

There may also be some activity at night which could also lead to higher usage of the RNAV approach to 03. In 2.8.2 of the deposition study Nitrogen Deposition Assessment, Parsons Brinckerhoff state: "LAA has already committed to no night time flight movements of commercial passenger aircraft between 2300 and 0700". However, the original LAA commitment stated in the Aug 08 Revised SEI, Revised Mitigation Schedule, said "LAA will...have a complete restriction on fixed wing aircraft movements at night time." There needs to be clarification over whether there is a complete ban on all aircraft, as stated in 2008, or whether the ban is only on commercial passenger operations? The latter could mean permitting cargo operations at night, amongst other things. Night time operations would allow flights through the restricted airspace at the Lydd Range and the use of the RNAV flight procedure should the wind direction and weather dictate.

1.4: Implications of a new ILS procedure for Runway 21

In the event that the airport decides that not having the whole of the newly extended runway length available for landing is unacceptable, they will have to move the ILS localiser aerial so that the ILS beam stays at the maximum 5 degree offset angle from the runway, but still meets the requirements for minimum distance to the runway threshold. This will require a re-design and approval of the ILS approach procedure.

A new ILS procedure will take time to be approved for the following reasons.

(a) The ILS localiser aerial will require moving. The existing localiser aerial is on the old cross runway which is outside the Dungeness Special Area of Conservation (SAC) and the Dungeness, Romney Marsh and Rye Bay SSSI. The new localiser aerial is likely to be further out from the centre line on the cross runway. Its close proximity to the boundaries of these important protected habitats means the environmental impact of the aerial's installation would need to be assessed.

(b) The airport won height concessions over the Western corner of the Hythe Range from the MOD for the existing ILS approach in a local agreement. Since the new ILS would result in further lateral encroachment into the Hythe Range this would need to be assessed and approved by the MOD. An FOI request to the MOD by LAAG revealed that the granting of the existing concession was controversial. There is thus no guarantee that a new concession will be granted, unless the lateral movement is small enough to be included under the existing local agreement.

1.5: Commercial Implications

If Lydd Airport does not apply for a revision of the ILS approach procedure, or it is denied one because the MOD will not grant further concessions at the Hythe Range, it will not be able to realise its stated ambitions outlined in the planning application since it will be difficult to attract the type of aircraft for which the runway extension is designed. The availability of the alternative RNAV procedure will not compensate for the limitations of the current or any new ILS.

The new RNAV procedures at Lydd are unlikely to make the airport more attractive to commercial operators. This is because:

- The runway 21 approach is significantly offset from the runway centreline, making it even more challenging to fly than the existing ILS approach.
- The runway 03 approach is only usable when the Lydd Range is not active.
- These are non-precision approaches, with no vertical guidance.
- The minimum heights to which aircraft are permitted to descend on the RNAV approach to runway 21 are the same as, or higher than, the minima for the ILS approach, so offer no advantages in that respect.
- The minimum visibility in which the RNAV approach can be used is between 1200 and 1600 metres, compared to 900 metres for the ILS approach, so it requires better weather conditions

The result is that, like the existing ILS approach, the RNAV approach to runway 21 is likely to lead to more missed approaches, diversions and cancellations of flights than would be the case with a conventional straight-in approach procedure. The availability of an approach procedure to runway 03 will do little to alter this since it will not be available most of the time. More missed approaches reduce an airline's capacity to meet tight schedules - essential for the successful commercial operation of a low cost operator. This introduces greater uncertainty about the reliability of services to and from Lydd and therefore reduces the commercial attractiveness of the airport to airlines.

1.6 Employment Consequences

In previous submissions LAAG has highlighted the operational shortcomings of Lydd Airport which will reduce its attraction to commercial operators and therefore mean that the purported economic uplift to the local economy will not occur. In particular, employment estimates will be materially lower than the figures forecast by Lydd Airport.

In our original submission dated April 26th, 2007 we pointed out that a more realistic rule of thumb for direct employment at Lydd Airport is 300 jobs per million passenger throughput, compared to the 600 jobs per million estimate used by the airport - since Lydd Airport would be more likely to be attractive to charter/low cost operators rather than scheduled full service carriers. Diseconomies of scale at lower passenger levels suggest an employment figure of around 175 jobs at a passenger throughput of 500,000ppa. However, the airport's operational shortcomings mean that carriers such as Ryanair and Easyjet, which are companies that run to tight schedules, would not be

attracted to Lydd Airport, suggesting that airline prospects will be reduced to charter airlines and maybe cargo operators. Therefore, the main issue facing Lydd is not so much the rate of employment per standard unit of passenger throughput, but whether it can attract operators to produce the throughput.

This applies particularly should the airport fail to redesign the ILS on runway 21 as aircraft such as the B737 would be unable to fully utilise the extended runway. Even if the airport does install a new ILS for runway 21 and gains better utilisation of the extended runway, the employment figures will be lower than those for a standard airport because Lydd Airport's non standard flight procedures and severe restrictions on runway 03 activity due to the presence of the Lydd Military Range will reduce its operational viability and commercial attraction.

Lydd Airport has failed to attract operators to its existing runway. The installation of the new (existing) ILS in June 2006 has not resulted in new business. A number of the aircraft types which are named in the proposed likely fleet mix at throughput levels of 300,000ppa and 500,000ppa are able to operate from the existing runway, but despite heavy marketing by Lydd Airport, operators of these aircraft have not become customers.

LAAG has long argued that Lydd Airport should provide an analysis of its past record as a backdrop to establishing a case for a new airport - why passenger numbers have been consistently lower than 5000 ppa for the last 10 years and why Lydd Airport needs to extend the runway when it is still only operating today at less than 1% of its current terminal and runway capacity of 300,000ppa and less than 2.0% of the Aviation White Paper's assessment of its likely projected operating capacity of 125,000 in 2030.

4th set of Supplementary Environmental Information

2.0: Executive Summary: Visual and Noise Impacts upon the SPA: 6.9-6.15 - Comparison between impact of ATR 42-300 and B737

- **The airport has again given a misleading impression of the base case by using an ATR42-300 to represent conditions today.**
- **The claims about the similarity of the visual and noise impacts produced by an arriving and departing ATR42-300 and a Boeing 737 are incorrect. A Boeing 737 has a greater visual and noise imprint than an ATR42-300.**
- **Lydd Airport cannot prove beyond reasonable scientific doubt that there would be no adverse impact on the integrity of the SPA and the proposed SPA as a result of the visual impact of aircraft either independently or cumulatively with noise under both development scenarios.**

2.1: Background:

Lydd Airport states the following in 6.10:

Decoupling the visual and noise impacts of arriving and departing aircraft on bird assemblages at the SPA is not possible, but it is clearly evident that the bird populations have habituated to the visual/noise impact of aircraft using the airfield at present.

They further cite comparisons between an ATR 42-300 and a Boeing 737 and claim in 6.13:

The two aircraft would have similar landing speeds and comparing the two aircraft from the perspective of a bird, the study concludes that there would be very little difference in the visual disturbance to bird populations with the arrival and departure of aircraft the size and speed of a Boeing 737. Given the frequency of go-arounds by light aircraft during pilot training, the additional frequency of large aircraft (up to 18 movements per day at 500,000ppa) would not provide a significant change in visual disturbance.

This claims made are incorrect. These are the relevant factors.

2.2: Misrepresented Base Case

This is another example of Lydd Airport's desire to misrepresent the base case. The ATR 42-300 is not representative of the base case. Activity at the airport currently remains dominated by light aircraft (<5700kgs).

A single ATR 42-312F (a cargo version of the ATR 42-300) has been based at Lydd since September 2009, under wet lease to Trans Euro Air, whose flying operations largely transferred from Southend to Lydd in May 2009. Until the leasing of this aircraft, Trans Euro Air had no prior experience of operating aircraft heavier than 5700kgs. The movements of this aircraft are sporadic and it largely returns to Lydd between 10pm and 12pm at night. Further, since Trans Euro's had its Operating Licence (OL) and Air Operators Certificate (AOC) suspended from 8 December 2009, the future of the ATR 42's operations is uncertain. The aircraft can only continue to trade because it is wet leased (leased with a crew) from an operator that meets regulatory requirements. It should also be noted that the ATR42 in the photo is not the aircraft currently operated by Trans Euro Air out of Lydd.

See Spaven Consulting's Report (**Appendix 2**) – para 2.5-2.7 for a more in depth analysis of the inflation of the base case.

2.3: Visual and Noise Comparisons

The claim that - *“The two aircraft would have similar landing speeds and comparing the two aircraft from the perspective of a bird, the study concludes that there would be very little difference in the visual disturbance to bird populations with the arrival and departure of aircraft the size and speed of a Boeing 737-* and inference that there would be little difference in noise impacts is derisory.

The airport claim (6.10) that the photomontage of the ATR 42-300 aircraft is *“at the same position as a Boeing 737 aircraft, which was photographed during landing at the airport in February 2007 during a noise trial. The photograph was not taken at Lade Pit, but at Greatstone Primary School, which is approximately the same*

distance from the airfield as the SPA". However, the worst case location within the SPA for visual disturbance is likely to be the section north of Boulderwall Farm. This is significantly closer to the runway 21 climb-out/runway 03 approach than Lade Pit. It may also be worth noting that, while the photos depict aircraft on final approach to runway 21, aircraft taking off are likely to generate greater visual impact because they will appear more suddenly, they will be accelerating and the combined noise and visual impact will be greater due to high power settings.

The comparisons made in the airlines manufactures own marketing material clearly highlight the likely difference in visual disturbance. The ATR42-300 is a turboprop aircraft while the Boeing 737 is a jet aircraft which means they perform differently when taking off and landing. For example, the ATR features short take off and landing capability compared to a jet which means it will be airborne before a jet and again will not as be visual as a jet on landing. **Appendix: 3** is taken from the ATR42's manufacture's promotional material and graphically illustrates the point. In this case it compares an ATR 500 (a more modern version) as opposed to an ATR42-300, with a regional jet carrying 50 passengers rather than a Boeing 737 carrying >>100 passengers. However, while it may not be wholly representative of the two aircraft in question it gives a good illustration of the dimensions in the likely visual differences between the two types of aircraft. As the illustration shows, on a given standard mission, a 50-seater jet requires about 40% more take-off field length than the ATR on a typical mission with a full passenger payload.

Para 2.8 of Spaven Consulting's report (**Appendix 2**) also highlights that Lydd Airport cannot substantiate its claim that the two aircraft will have the same visual impact by showing that the aircrafts dimensions are very different.

From a noise perspective there is a considerable difference between the ATR42-300 and Boeing 737. The noise footprints in **Appendix 4**, taken from the same piece of marketing material as **Appendix 3**, graphically illustrate the difference between the ATR and a jet. Spaven Consulting in 2.10 of **Appendix 2** adds to the body of evidence, as does the accompanying table to the report.

It is therefore not possible to prove beyond reasonable scientific doubt that there would be no adverse impact on the integrity of the SPA and the proposed SPA as a result of the visual impact of aircraft either independently or cumulatively with noise under both development scenarios.

3.0: Technical Appendices: Appendix 1 - Legal Advice Note - Habitats Regulations

Summary & Conclusions:

- **The clarification given in the legal advice note by Lydd Airport's lawyers Pinsent Masons LLP is immaterial in the context of the final conclusion that Lydd Airport has been unable to prove that the proposed development will not have an adverse impact on the protected European Habitats that surround the airport/runway.**
- **The Appropriate Assessment under the Habitats Regulations ought to have been determined on the basis of 2mppa as opposed to the capacity proposed of 500,000ppa in accord with the Airport's Master Plan. All**

evidence submitted by Lydd Airport in defense of its proposed application thus underestimates potential impacts.

The interpretation provided in the Legal Advice Note does not negate any of the conclusions made in the Officers Report. Indeed, since Shepway District Council took advice from Natural England - the statutory consultee for Habitats Regulations Assessments - the subsequent opinions of Lydd Airport and its advisors as to the interpretation of the law are irrelevant.

We remind Shepway District Council that we believe a Master Plan qualifies as a “plan” under the habitat’s regulations and should therefore be considered in combination with planning applications in an Appropriate Assessment. In the case of Lydd Airport this implies that the Appropriate Assessment should have been carried out on the basis of a throughput of 2million passengers per annum (2mppa) as opposed to the basis of 500,000ppa used - see Matthew Horton QC’s legal opinion dated January 29th, 2009.

This means all evidence submitted by Lydd Airport, including that referred to below, automatically underestimates the true impact of the airport’s development on the environment and the residents of Romney Marsh.

4.0: Technical Appendices - Appendix 3: Airfield Biodiversity Action Plan

The revised Biodiversity Action Plan is an improvement on the earlier version and has some positive features but still fails in a number of areas. The summary and recommendations from Swift Ecology’s report (**Appendix 5**) are shown below.

Note the reference to the runway safety strips. CAA regulation CAP 168 requires that a code 4 instrument runway (proposed expanded Lydd Airport) necessitates a runway strip extending to 150m either line of the runway centre line. The area extending to 105m either side of the runway should be cleared of obstacles and graded. In the area between 105m and 150m - where Pond A is located - the nature of the obstacles “tolerated” at higher operating levels is less clear. It is the responsibility of Lydd Airport to make the judgement about the tolerability of the obstacle. The catalogue of omissions and errors associated with Lydd Airport’s planning application suggests that an independent evaluation should be undertaken.

Swift Ecology Report Summary:

- **The Biodiversity Action Plan is an improvement on the earlier draft, particularly for the great crested newt, although detail is lacking on the various proposals at this stage, and is required to confirm this conclusion.**
- **The significance of the fen habitats on this site do not appear to be appreciated and the plan needs modifying to recognise this and suggest better habitat management.**

- **There is still a major weakness in many of the conservation measures proposed for invertebrates (with the exception of the medicinal leech). In places there is too much emphasis on planting out vegetation on the shingle to attract rare species, rather than managing the shingle habitats in a way that delivers these species in a sustainable way.**
- **The Bird control studies are an improvement in that the netting of ditches will not exclude moorhen, an important prey species for the medicinal leech, and further new ponds are proposed for this species. However I do wonder if the proposal to use recordings of bird alarm calls to scare birds from using the site will have the effect of reducing the host density for the leech.**
- **The work on Hammond's Corner is good as far as the Ward Body ditch is concerned; however the survey of the North Ditch was inadequate, presumably due to access difficulties. There is no discussion about how these ditches interact with other water vole habitat in the area, and their use as links between sites.**
- **No mention is made as to why great crested newt and the widespread reptiles were not surveyed.**
- **One element that is not covered in any of these documents is the future status of Pond A. Although Pond A is outside the graded area up to 105m of the runway centre line it is partly within the boundary of the 150m runway strip. Whether Pond A is considered an obstacle within this area has never been clarified. Any move to fill in the pond would damage great crested newt breeding habitat. A legal agreement with the local authority would be a good way to confirm its current status.**

Recommendations

- **You should welcome the proposals to remove scrub from areas of shingle vegetation and bare shingle (providing this is undertaken carefully with cut material not stacked on areas of shingle vegetation).**
- **You should recommend that areas of fen habitat, particularly in the area around ponds 3 and 4 on the attached map are also cleared of scrub, AND reed, and managed to restore short-fen vegetation (dominated by sedges), similar to that found on some of the Open Pits on the Dungeness RSPB reserve.**
- **You should in principle welcome proposals to manage the ponds, although final details have not been provided**

- You should welcome the proposal for new, un-netted ponds on the footprint of the old short runway. If appropriately designed this should result in new habitat for great crested newt and medicinal leech.
- You should question the location of the three scrapes marked on the plan in Appendix C. At least two of these appear to be on areas of shingle that would be better left undisturbed. I would recommend the deepening of the existing scrape, marked on Map 1, to create better newt breeding habitat.
- You should point out that proposals for management of the cleared and graded strip will not benefit bumblebees such as *Bombus humilis* as suggested. Although this bee nests in tall vegetation it requires extensive areas of legume-rich grassland, and these are not to be provided.
- I would point out that the provision of “refugia” for reptiles and amphibians is not necessary in an area of semi-natural habitat. It will damage existing features on the shingle and should be avoided.
- You should point out that the proposals to plant out food-plants for moths and butterflies are not well thought-out, and are not necessary.
- Whilst welcoming the decision to use nets that allow moorhen into the fenced ditches, and to create new unfenced pools for medicinal leech, you might wish to query the impact of bird alarm calls on waterfowl using the various wetlands by the airport, and the significance of this on the prey supply for medicinal leech.
- I would query why great crested newt was not subject to a survey at Hammonds Corner (note there might have been a good reason for this).
- You should seek independent clarification of the future status of Pond A.

5.0: Technical Appendices: Appendix 4 - LAA Nitrogen Deposition Assessment

Summary and Conclusions:

- It cannot be argued that future Nitrogen deposition levels at Dungeness will not have an adverse impact on the Dungeness SAC as there is uncertainty about too many of the variables making up the assessment.
- The flight path assumptions used as a basis for the nitrogen deposition assessment appear to be those submitted with the Revised SEI in August 2008. These contained numerous previously reported flaws and are therefore an inaccurate basis for any emissions analysis.

- **The flight path assumptions do not take into account the new RNAV flight procedures (flight paths) for runways 21 and 03.**

Non Aviation Aspects:

- **Any model to ascertain the absence of adverse impacts beyond reasonable scientific doubt must use the most conservative possible assumptions. This predicates the use of current data, rather than projected data, for background pollutant concentrations.**
- **Similarly, the controversy over critical load factors cannot be dismissed. There are experts on both sides of the argument and the absence of empirical data which means it cannot be argued that reasonable scientific doubt no longer exists.**

5.1: Flight Path Assumptions

The flight path assumptions in this new study are not correct as they are based on guidance given in earlier SEIs. Further, they take no account of the new RNAV approach procedures approved in August 2009. These inaccuracies are set in the Spaven Consulting Report - **Appendix 2** - 3.0-3.3 and repeated below.

Spaven Consulting Report - Flight path assumptions underpinning nitrogen deposition study

3.1 Appendix 4 of the LAA submission in December 2009 contains the Nitrogen Deposition Assessment. Section 1 of that study makes clear that no changes have been made in the flight paths assumed for the purposes of the nitrogen deposition assessment since those undertaken for the Revised SEI in August 2008.

3.2 The nitrogen deposition study focuses on a relatively small area within approximately 2.5km radius of the airport. This restricts the extent to which different flight path assumptions might have relevance for the methodological validity of the nitrogen deposition assessment. However a number of errors or omissions in the flight path assumptions as at August 2008 would be pertinent to the nitrogen deposition study. These were originally set out in Spaven Consulting Report No. 08/157/LAAG/4 of October 2008. They include:

- *Left turns on departure from runway 21 are depicted flying too far south. The implication of this for the nitrogen deposition study is that aircraft will in fact remain within the study area for longer than the 2008 flight paths would predict, with the potential for higher emissions within that area.*
- *All arriving aircraft on runway 21 are shown following a straight-in approach from at least three miles out. This fails to take account of light aircraft profiles. The implication of this for the nitrogen deposition study is that emissions are likely to be more widespread than would be predicted from a uniform straight-in approach path.*
- *Jet departures from runway 21 are all shown departing to the south east and jet departures from runway 03 are all shown departing to the north east. The implication of this for the nitrogen deposition study is that emissions are*

likely to be more widespread than would be predicted from these single assumed departure paths.

- *Arrivals to runway 03 are shown approaching straight in over the Lydd Range, which is unrealistic for the majority of traffic. The implication of this for the nitrogen deposition study is that emissions are likely to be more widespread over the south eastern and south western parts of the study area.*

3.3 *Since the August 2008 Revised SEI, LAA has introduced RNAV (satellite-based) approaches to both runways. This has the potential to permit IFR approaches to runway 03, flying through the D044 range, when the range is inactive, whereas previously only visual approaches would have been possible to that runway. In addition, the runway 21 RNAV approach is not on the same alignment as the pre-existing ILS and NDB approaches to that runway. Any flight path assumptions used as a basis for the nitrogen deposition assessment should take account of these changes. However there is no evidence that they have done so.*

5.2: Other Issues

Irrespective of the validity of the flight path assumptions used in the assessment, Lydd Airport cannot prove the absence of adverse effects on the integrity of the Natura 2000 sites for the following reasons:

In the context of reasonable scientific doubt:

(1) Estimating background pollutant concentrations and background nitrogen deposition data for future years, is a highly questionable exercise. Only the current base level is relevant. Although future background pollutant levels are predicted to continue to decline due to legislation to reduce emissions and improvements in technology, there is no guarantee that this will take place. For example, in the case of cars the impact of these measures could be swamped by a further explosion of car ownership. Further, the law of diminishing returns as to the impact of past actions suggests that the rate of improvement could diminish. All estimates of future concentration are only as good as the assumptions used in the modelling. The Habitats Regulations require the removal of uncertainty. To reduce doubt, a sound starting point is to opt for the most conservative assumptions when modelling. This means - current background pollutant concentrations and deposition levels should be used in determining the respective ambient totals.

(2) Lydd Airport's consultants argue that there are no grounds for selecting any other critical load range than the 10-20kgN/ha/yr used in their analysis and that there is no formal foundation for the use of any other critical load range. Again this misses the point. The site specific critical load factor for perennial vegetation of stony banks is not based on empirical evidence but is a best estimate of experts. Other experts as cited in Cresswell argue that there is evidence to suggest that the critical load factor is too high. Given the significance of the critical load factor in determining adverse impacts and the uncertainty regarding its magnitude, it cannot be argued beyond reasonable scientific doubt that these habitats will not be adversely affected by the proposed development.

(3) In the critique of the Cresswell report Parsons Brinckerhoff claim that "*it is reasonable to assume that nitrogen deposition over Dungeness has followed national emission trends and has been in decline for 20 years(2.3.3)*" and goes on to state in

2.3.4 that “*given the analysis of Fowler, deposition of nitrogen is likely to have exceeded the lower limit of the critical load range for well over 50 years, which suggests that the current species composition are relatively insensitive in the long term to nitrogen deposition at levels towards the lower end of the critical load range or any potential accumulation of nitrogen in the oligotrophic soils.*”

This cannot be said with reasonable scientific authority as there is a lack of strong site specific empirical evidence. Until recently (before the construction of the A2070 from Ashford to Brenzett across Romney Marsh in 1994, the development of Ashford and the completion of the M20 in 1991) Dungeness was an isolated area and it is possible that nitrogen deposition across Dungeness was below the national trend so the assertion that the current species composition is relatively immune is questionable.

Taking all factors into consideration, it cannot be argued that future Nitrogen deposition levels at Dungeness will not have an adverse impact on the Dungeness SAC as there is uncertainty about too many of the variables making up the assessment.

6.0: Technical Appendices: Appendix 5 & 6 - The Impacts of On-Airport Bird Control Activities and the Draft Bird Control Management Plan

- **The draft bird control management plan clearly demonstrates how actions taken to ensure flight safety WILL have an adverse impact on the welfare of qualifying species for the Dungeness to Pett Level Special Protection Area (SPA).**
- **Lydd Airport has repeatedly endeavoured to inflate the base level of activity and the size of aircraft operating from Lydd Air in an attempt to diminish the impact of the proposed development. The uplift in bird control management activity will be substantial under both passenger scenarios (300,000ppa and 500,000ppa) when compared to the existing low level of activity.**

The studies (winter and summer) of the impact of on-airport bird control activities on bird communities located in the SPA/Bird reserve adjacent to Lydd Airport are of academic interest only. They are not representative of the panoply of actual conditions which will occur at the airport and the breadth of techniques to be employed under the Bird Control Management Plan. The latter clearly illustrates the conflict between human and bird welfare and the propensity to cause adverse impacts to a wide variety of birds including those protected under the Habitats Relations.

Para 8.7.1 in the Management Plan illustrates the conflict since flight safety is paramount and overrides all issues of bird welfare. Shooting and nest destruction will take place if flight safety is compromised. “*At Lydd, there are significant local conservation interests and an additional degree of sensitivity is required when conducting lethal control of birds in the interests of flight safety. However, these concerns must not be allowed to endanger flight safety by adversely affecting the efficacy of bird control efforts at the airport.*” The plan states that the use of distress calls and pyrotechnics is ineffective against crossing wildfowl (7.6). It also claims in

7.6 that crossing wildfowl, which includes the Bewick Swan, a qualifying species for the Dungeness to Pett Level Special Protection Area (SPA), will not be shot, or shot at. In practice the over riding need to ensure flight safety could lead to these birds being shot to prevent accidents. This point is addressed again under Off-Airfield Bird Control Measures in 12.5.1. Lethal means is not advocated but in an emergency shooting will take place because flight safety is paramount. This means the Bird Control Management Plan (BCMP) could adversely affect qualifying species of a European site.

Local Safeguarding Policy (11.2) again highlights the conflicts. This is an area renowned and protected for its unique habitats, fauna and flora, yet the BCMP freely acknowledges that the type of developments that are often executed by bird reserves to enhance their conservation credentials (11.2.3, 11.3.1, 11.4.1) should be actively discouraged.

6.1: Other Considerations:

(a) An effective BCMP will require the co-operation of local farmers (6.4.1). There is no guarantee that Lydd Airport will achieve this assistance as a number of farmers in the vicinity of the airport are opposed to its development.

(b) Lydd Airport has repeatedly endeavoured to inflate the base level of activity and the size of aircraft operating from Lydd Air in an attempt to diminish the impact of the proposed development. The uplift in bird control management activity will be substantial under both passenger scenarios (300,000ppa and 500,000ppa) when compared to the existing low level of activity.

Yours Sincerely

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APPENDICES: 1-5

Appendices 1a, 1b, 1c: RNAV Flight path procedures

Appendix 2: Spaven Consulting Report

Appendix 3: ATR42-300 and jet comparison - visual

Appendix 4: ATR42-300 and jet comparison - noise

Appendix 5: Swift Ecology Report