

Topic	Issue	Questions	Proposals
<p><b>A</b> <b>Noise monitors</b></p>	<p><b>A1</b> At present, all permanent monitors are situated directly under the main departure paths. As a result, one relies entirely on modelling to quantify aircraft noise in areas to either side of the main departure paths. Operational changes, such as change in vertical departure profiles can significantly alter the lateral spread of aircraft noise [1,2]. In some cases noise will be increased significantly elsewhere by movements away from the normal operational flight path, or by a change in climb profile, and show little change or even a reduction directly under the flight path. It is important to be able to quantify the noise impact of such changes so that appropriate noise mitigation actions can be implemented.</p>	<p>What plans are in place to assess the positions of the monitors as the noise plan develops? Has the potential ACP been taken into account to position monitors?</p>	<p><b>A1</b> Install multiple permanent noise monitors at various distances from the main departures routes so that the lateral spread of noise over populated areas can be quantified and the impact of vectoring accounted for. EANAB should be involved in the decision for positioning the monitors.</p>
	<p><b>A2</b> There are no permanent noise monitors in areas beyond the 51 LAeq contours where the community is impacted by</p>		<p><b>A2</b> Install permanent monitors beneath existing flight paths in areas beyond the 51 LAeq contours so that noise is quantified in affected communities.</p>

	<p>aircraft noise (as shown by the complaints received). It is important that aircraft noise in such areas is quantified (along the background noise) so that appropriate noise mitigation actions can be implemented.</p>		<p>EANAB should be involved in the decision for positioning the monitors.</p>
<p><b>B</b> <b>Noise contour maps</b></p>	<p><b>B1</b> The noise contour maps produced by the CAA using the ANCON model fail to take into account vectoring and dispersal as the model assumes that aircraft always follow the SID route. The amount of vectoring/dispersal will therefore impact the accuracy/validity of the noise maps.</p>	<p>What statistical and historical data is available about vectoring below 10000ft?  How is vectoring authorised and decided?  How is the effect of the water (such as the river Forth) taken into account when modelling aircraft noise to produce the noise contour maps?  How is the effect of land forms/building and vegetation cover taken into account when modelling aircraft noise to produce the noise contour maps?</p>	<p><b>B1</b> Instead of using “ideal” SID route for noise modelling. Analysis of EDI radar data should be carried out (as it is done for London airports) to account for dispersal and input the noise modelling tool with data representative of EDI operations [3].</p>
	<p><b>B2</b> The LAeq, Lden and Lnight noise contour maps are meaningless to the general public and poor indicators of aircraft noise impact. For example an increase of over 10% in ATMs between 2011 and 2016 did not alter the noise contours significantly. Even a doubling of ATMs, assuming an</p>		<p><b>B2</b> In parallel to the current contour maps, Lmax/SEL noise footprint (such as the ones in reference [5]) should be made public and part of the NAP. The footprint should be produced in a way which takes into account flight path dispersion around the nominal track. This should be done for all departure routes for the 5 most common aircraft types and the 5 loudest aircraft types. This should be done down</p>

	identical fleet mix, would result in a shift of only 3dB.		to the ANCON model accuracy limit of 59dBA Lmax to inform as many communities as possible.
	<p><b>B3</b> The LAeq contour maps in the NAP document are limited to 57dBA. Communities situated outside this threshold are affected by noise and are complaining about it. It is also questionable if the lowest contour value is sufficient to represent change and take into consideration the impact on health and quality of life.</p>	What is the smallest Lden, Lnight and LAeq contour that can be produced in terms of modelling accuracy?	<p><b>B3</b> LAeq, Lden and Lnight contour maps should be mapped down to the limit dictated by modelling accuracy. At the very least, the LAeq map should be presented down to 51dBA and the Lnight map down to 45dBA in accordance with recommendations [4]. LAeq maps included in the ERCD noise study part of the recent ACP consultation material pack have been drawn down to 51 dBA [5].</p> <p><b>B4</b> Data collected at monitors outside the minimum contours (see proposals A1 and A2) should be summarised and included alongside all future release of noise contour maps.</p>
	<p><b>B4</b> Currently noise maps for EDI are released every 5 years. This is not adequate for the main Scottish airport, which is also the 2nd busiest airport outside London.</p>		<p><b>B5</b> Noise contour maps should be produced yearly.</p>
	<p><b>B5</b> There are concerns that the modelling done to produce the noise contours map has not been validated locally.</p>	<p>How does the modelling stand up to state of the art scrutiny?</p> <p>Are the models and assumptions validated regularly and independently?</p> <p>Have noise maps been produced using models other than the CAA's ANCON model for benchmarking?</p>	

<p><b>C</b>  <b>Continuous climb departures (CCD) and continuous descent approaches (CDA)</b></p>	<p><b>C1</b>  The NAP document (page12) is misleading to the general public implying that the use of CCD has advantages both in terms of noise and emissions.  There exist a range of departure profiles that can be qualified by the generic term “CCD” but with very different impact in terms of emissions and the distribution of noise.</p>	<p>What Noise Abatement Departure Procedures (NADP) are in place at EDI?  What evidence is there of the noise optimisation of the departure and arrival profiles at EDI?  Who/what factors dictate which departure/arrival profile is executed at EDI?  Why are so many departing aircraft in breach of the ICAO guidelines on speed: below 250kts under 10,000ft?</p>	<p><b>C1</b>  The NAP should not include the general and misleading message that CCD are beneficial both in terms of noise and emissions. Instead it should talk of noise re-distribution and explain that depending on the departure profiles some areas will benefit in terms of noise while other will be negatively affected [1,2,6,7].</p> <p><b>C2</b>  EANAB should be involved in preparing the description of the noise impact of CCD/CDA in the NAP document.</p>
<p><b>D</b>  <b>Air quality &amp; emissions</b></p>	<p><b>D1</b>  It is suggested (appendix H) that the downward trend in NO2 concentrations at the Edinburgh St Leonards monitoring site from 2003 to 2013 is related to EDI operations. This is highly questionable and misleading as the site is not directly overflown and situated in an area where numerous other factors could have affected the results.</p>		<p><b>D1</b>  Remove the suggestions that drop in NO2 concentrations at St Leonards site is linked to EDI operations from NAP document unless the correlation can be proven.</p>
	<p><b>D2</b>  The statements in appendix H about air quality at EDI have been worded in a very confusing manner. It is unclear what has changed, when and where.</p>		<p><b>D2</b>  Clarify changes and include graphs showing the historical trends in NO2 concentrations for the EDI sites since 1999.</p>

<p><b>E</b> <b>Noise fining</b></p>	<p><b>E1</b> The actual incidence of noise fining is not given. Previous discussions with June suggested fines are rarely given out yet the number of noise complaints has increased.</p>	<p>Is the low frequency of noise fining and the increasing number of noise complaints not an indicator that the fining thresholds are too high?</p> <p>How have the thresholds for fining been decided?</p>	<p><b>E1</b> Statistics about historical noise fining should be reviewed by EANAB.</p>
<p><b>F</b> <b>Night flights</b></p>	<p><b>F1</b> Many residents are concerned and affected by aircraft noise associated with night flight.</p>	<p>What is the projected trend for the number of night flights?</p> <p>How many complaints have been received, over time, specifically about night flight?</p> <p>Why can't a "no flight" period be put in place at EDI?</p>	
	<p><b>F2</b> Flying at night is acknowledged as increasing annoyance and disturbance (page 15) and it is highlighted that Edinburgh Airport is an overnight base leading to an early morning peak (page 19) yet there are no clear proposals to deal with this issue set out in the NAP other than the existing lower fining threshold.</p>	<p>What night aircraft noise mitigation is done outside the lower fining threshold?</p> <p>Are there any noise abatement departure procedures in place at EDI specifically aimed at addressing night flight noise?</p> <p>How does the airport see night flights being controlled locally?</p>	<p><b>F1</b> All climb profiles at night time should be optimised for noise until 10000ft.</p>

	<p><b>F3</b> World Health Organisation (WHO) guidelines state that a fixed interval of 8 hours is a minimal choice for night-time protection from noise. Yet EDI operates 24/7 and the period of night noise mitigation at EDI is 23h30 to 06h00.</p>		<p><b>F2</b> Options for a “no flight” period at EDI should be reviewed.</p> <p><b>F3</b> The night noise mitigation period should at least match the WHO guidelines (e.g. 23h00 to 7h00 or 22h00 to 06h00).</p>
	<p><b>F4</b> On Sunday 25th March 2018, 14 flights were scheduled to depart between 05:55 and 06:55; 12 flights were scheduled to depart between 07:00 and 08:00 - and only 5 scheduled to depart between 08:00 and 08:55. There were 6 significant gaps of between 15 and 35 minutes timetabled in the schedule for departures between 07:05 and 10:15. These are typical Sunday departure patterns in all but the very busiest peak periods.</p>	<p>What can EAL do or does to influence departure times?</p>	<p><b>F4</b> There should be a restriction on flights departing from EDI before 07:00 at least at weekends.</p> <p><b>F5</b> There should be responsible scheduling of departures to mitigate the well-documented and significant adverse health implications of sleep deprivation in affected communities.</p> <p><b>F6</b> Financial measures to dissuade airlines to depart from EDI before 07:00 should be explored.</p>
<p><b>G</b> <b>Compensation</b></p>	<p><b>G1</b> Compensation arrangements are limited and inadequate. The geographical area where compensation may be triggered is very small in comparison to the</p>	<p>A person’s quality of life can be ruined in perpetuity, at great cost to the individual but at no cost to the airport. Where is the “Polluter Pays” Principle?</p>	<p><b>G1</b> The compensation scheme should be extended to areas outwith the 63dB contour where aircraft noise exceeds World Health Organisation and other limits recommended on health grounds.</p>

	noise nuisance being created much further out from the airport.	What criteria were used to determine the threshold value of 63dbA LAeq for compensation?	
<b>H</b> <b>Noise complaints</b>		Will noise complaints be used as an opportunity for identifying changes to operations that will reduce noise?	<b>H1</b> There should be a public record of what action has been taken in response to the complaint with the aim of reducing noise in future.
<b>I</b> <b>Response form</b>	<b>I1</b> Some questions contain incorrect and misleading information: e.g. B7 Noise Management Board description does not match reality.	What are the practical activities carried out to manage noise? How is their efficacy assessed and reviewed?	<b>I1</b> In future, EANAB must be informed and offered a timely opportunity to comment on any documents that contain references to the EANAB.
	<b>I2</b> Some questions appear irrelevant e.g. B16 and B17 why ask how frequently someone flies in relation to a questionnaire on aircraft noise?	What is the rationale for asking people about their flying habits?  Will responses be weighted differently depending on how the questions were answered (e.g. B2, B8)?	
<b>J</b> <b>Quality of documentation</b>	<b>J1</b> Not an easy read document for a lay person. Communities have commented that they do not understand some of the technical aspects, or what they are being asked or how they should respond.	Meaningful consultation means that the people being asked must understand fully the matters they are being asked to comment on.	
<b>K</b> <b>Overall comment</b>	<b>K1</b> Some of the questions asked seem assumptive and leading or irrelevant to the task of noise reduction. It is unclear how responses to questions will be		

	<p>weighted in the final analysis, and how this may skew results. It would be helpful for a default option to be that all responses will be published anonymously. If meaningful and measurable reductions in noise do not flow from the Noise Action Plan, there is a risk that this process might be seen as nothing more than a PR exercise.</p>		
<p><b>L</b> <b>Health impact</b></p>	<p><b>L1</b> Not enough information was provided in the NAP document about the quantifiable impact of aircraft noise on health and learning, two of the main reasons for reducing aircraft noise.</p>		<p><b>L1</b> EAL and EANAB should cooperate to produce a summary of negative impact of aircraft noise (including WHO guidelines), which should be added to the NAP.</p>

## References:

[1] Appendix D in CAP1378

[https://publicapps.caa.co.uk/docs/33/CAP\\_1378\\_APR16.pdf](https://publicapps.caa.co.uk/docs/33/CAP_1378_APR16.pdf)

[2] Chapter 5 in CAP1165

[https://publicapps.caa.co.uk/docs/33/CAP\\_1165\\_Managing\\_Aviation\\_Noise\\_2.pdf](https://publicapps.caa.co.uk/docs/33/CAP_1165_Managing_Aviation_Noise_2.pdf)

[3] Aircraft noise model validation – how accurate do we need to be?

[http://www.aerohabitat.org/link/2003/27-05-2003%20-%20UK%20-%20%20INM%20Noise%20validation%20\(450KB\).pdf](http://www.aerohabitat.org/link/2003/27-05-2003%20-%20UK%20-%20%20INM%20Noise%20validation%20(450KB).pdf)

[4] House of Commons Briefing Paper No SN261, 13<sup>th</sup> February 2017.

<http://researchbriefings.files.parliament.uk/documents/SN00261/SN00261.pdf>

[5] Technical Note (v.2) Edinburgh airport – new SIDs ACP noise assessment

[https://s3-eu-west-1.amazonaws.com/edinburghairport/files/acpv2/consultation-material/library/CAA\\_ERCD\\_Noise\\_Analysis.pdf](https://s3-eu-west-1.amazonaws.com/edinburghairport/files/acpv2/consultation-material/library/CAA_ERCD_Noise_Analysis.pdf)

[6] ICAO doc 9993- Continuous Climb Manual – section 1.1.2.6

<https://skybrary.aero/bookshelf/books/3168.pdf>

[7] Managing the impacts of aviation noise section, Canso & ACI, 2015 – sections 6.3.1 and 6.3.3

[https://www.canso.org/sites/default/files/Managing%20the%20Impacts%20of%20Aviation%20Noise\\_HQ.pdf](https://www.canso.org/sites/default/files/Managing%20the%20Impacts%20of%20Aviation%20Noise_HQ.pdf)