

Heathrow Airport Ltd

**Summary Note of Night Flights
Workshop held 1 Dec 2016**

Night Flights: Key Factors for
Operating Principles.

| 9 January 2017

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number

Ove Arup & Partners Ltd
13 Fitzroy Street
London
W1T 4BQ
United Kingdom
www.arup.com

ARUP

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Night Flights: Identified Key Factors for Operating Principles and their Priorities.

Airlines and ANSP

Appendix C

Night Flights: Identified Key Factors for Operating Principles and their Priorities.

Community

1 Purpose of Workshop

- 1.1 To obtain initial views from key stakeholders on:
- i) The key factors that Heathrow should take into account when considering operating principles for late evening and night flights.
 - ii) The prioritisation of the identified key factors.
- 1.2 To broaden Heathrow's general understanding of stakeholder views on night flights.

2 Attendees

Representatives from 14 key stakeholder groups were invited to the workshop by Heathrow Airport Ltd (HAL). The stakeholders were chosen as a representative cross-section of the local community, airlines and air traffic control either from the Heathrow Community Noise Forum or Airline Operational Efficiency Stakeholder Group, both of which consider matters on night flights. In addition, there were seven representatives from HAL's operations business.

At Heathrow's request the workshop was facilitated by two people from Arup, as independent facilitators.

The full list of workshop attendees is presented in Appendix A.

3 Workshop Programme

The agenda for the workshop was:

- i) Welcome and introductions.
- ii) Scene setting:
 - a. Overview of Heathrow night flights.
 - b. Heathrow's proposed voluntary Quiet Nights Charter.
- iii) Breakout sessions:
 - a. Identify key factors for operating principles that Heathrow should take into account on night flights.
 - b. Consider priorities for the identified key factors:
 - i. Community perspective;
 - ii. Industry perspective.
 - c. Review and discuss findings.
- iv) Next steps
- v) Wrap up.

4 Background

Heathrow Night Flights

Night flights at the UK's noise designated airports (Heathrow, Gatwick and Stansted) are strictly controlled by the Department of Transport (DfT) under Section 78 of the Civil Aviation Act 1982, which sets restrictions on the amount of aircraft noise that can be made at night. These restrictions are established within the framework of the ICAO Balanced Approach to airport noise management.

The structure of the DfT night flying restrictions has been in place since October 1993 and established movement limits and noise quotas between 23.30 – 06.00 hours local (the 'night quota period'). There are also restrictions on the noisiest types of aircraft between 23.00-23.30 hours and 06.00-07.00 hours (the 'shoulder periods') based on the aircraft quota count (QC). The QC system assigns quota points to each aircraft based on its individual certificated noise data. This will differ depending on whether it is arriving or departing.

The night flying restrictions are divided into summer and winter seasons, with movement limits and total noise quota limits assigned to each. Rules are established for the extent that movements or noise quota can be carried over from one season to the next. There are also rules on the special circumstances in which individual flights may be dispensed or exempted from the night flight controls.

The DfT's night flight controls at Heathrow are amongst the strictest of any hub airport in Europe between 23.00 and 06.00hours¹ local. Heathrow is restricted by the Government to 5,800 night-time take-offs and landings a year between 23.30 and 06.00 hours. This equates on average to about 16 movements per night in the night quota period, of which 85-90% comprise scheduled early morning arrivals. The restrictions on the type of aircraft that can be scheduled to operate during the night at Heathrow according to their QC number are as follows:

- Between 11.00 and 07.00 hours local, aircraft in the two highest bands (QC8 and QC16) cannot be scheduled to take off or land.
- Between 11:30 and 06.00 hours local, aircraft in the three highest bands (QC4, QC8 and QC16) cannot be scheduled to take off or land.

Most of Heathrow's night flights comprise arrivals after 04.30 hours, with the majority taking place after 05.00 hours. They are mainly long-haul arrivals passenger services, with over 70% originating from Asia and the Middle East. Other night flight services operate for a number of reasons. With current runway capacity constraints at Heathrow, any runway disruption or flight delays can accumulate throughout a day with the result that a number of late running aircraft, primarily departures, need to operate during the first part of the night quota

¹ Faber et al (2012) Night Flight Restrictions and Airline Responses at Major European Airports. Report by CE Delft for ADVOCNAR.

period. Furthermore, during periods of widespread and prolonged air traffic disruption, for example due to inclement weather (fog, snow) or air traffic controller strikes, flights may need to operate at night to avoid serious hardship being caused to passengers.

The Government sets a weekly rotation pattern for westerly and easterly Heathrow runway operations. This has the effect that at night, when there is little or no wind, one week arrivals are from the west, and the next they are from the east.

Since 1993 the number of movements permitted at Heathrow has remained constant whilst developments in aircraft technology have enabled the QC limits to be reduced. This progress is reflected in the size of the Lnight (6.5 hour) 48 dB(A) contour which has reduced from 56.4km² in 2006 to 33.0 km² in 2014.

The Government consults on the night flight restrictions at the noise designated airports every five years or so, striking a balance between the economic and social benefits and the environmental disbenefits. Its current night flights regime was set in July 2014 and the Government is expected to be consulting in early 2017 on a new regime, to commence in 2017.

Voluntary Quiet Nights Charter

In 2016 Heathrow published its second Blueprint for Noise Reduction, setting out ten practical steps the airport will take to reduce aircraft noise in response to feedback received from local communities. One of the commitments is to reduce the impact of night flights through the development of a voluntary Quiet Night Charter.

The key principles for the Charter are being developed in partnership with airlines and the Heathrow Community Noise Forum (HCNF), particularly Working Group 3 on Night Operations. Building on analysis and discussions with HCNF during 2016, Heathrow's primary focus for the Charter became late running departures during normal operations (that is, non-dispersed aircraft). In particular, the practical measures Heathrow and airlines could take to reduce late running and its community impacts. This includes aspects such as the distribution of aircraft across different departure routes and the operational procedures prior to the night quota period which could reduce the risk of late running departures.

Heathrow, airlines, NATS, industry representatives and the HCNF are currently reviewing a range of operating principles to inform the development of the Charter. These include:

- Whether to optimise the noise environment for communities closer in or further out;
- Whether to accept more noise in some communities in order to reduce for others;
- How to share planned respite;

- Whether to provide more respite before 23.30 if this introduces a greater risk of running post 23.30hrs;
- Whether to have fewer late running departures at the expense of more early arrivals;
- How to trade impacts of late departures on community and passengers.

Workshop on Key Factors for Operating Principles

To help inform the development of the voluntary Quiet Nights Charter and more broadly to improve Heathrow's understanding of key stakeholder priorities for night flights operating principles, the airport committed to hosting an engagement workshop on night flights.

Arup was appointed to support and independently facilitate the workshop, held on 1 December 2016 at the Heathrow Compass Centre.

5 Scope of the Workshop

The framework for the workshop is described in Section 1 and the scope of this workshop was to consider Heathrow night flights in isolation.

6 Methodology

Workshop delegates were briefed on the purpose and scope of the workshop, including the role of Arup as independent facilitator. An overview presentation² was given to delegates by HAL and Helios setting out the regulatory and policy context for Heathrow night flights, together with the work underway to develop the voluntary Quiet Nights Charter.

A break-out session was held with all delegates to discuss what key factors for operating principles they considered were most important in the management of night flights. This was supported by some suggested key factors on printed cards (including blanks) to assist discussion.

A second break-out session was then held to determine the rank order of the identified key factors by priority. Delegates were divided into two groups for this purpose - Community and Airlines/Air Navigation Service Providers (ANSP) - as shown in Table 1. Representatives from Arup and HAL were on hand to support group discussions and respond to queries where needed. The delegates then reconvened and a representative of each group reported back their findings and observations to the whole group for discussion.

²Workshop with stakeholders about Heathrow Night Flights. 1 December 2016.

Group	Name
1 - Airlines and ANSP	Geoff Clark; Chris Carter; John Crook; Harri Howells; Gerry O'Connell; Mark Gardiner; Rick Norman; Peter Rafano.
2 – Community	Graham Young; Cllr Wendy Matthews; Peter Willan; John Coates; Margaret Majumdar; John Stewart; Surindapal Suri; Paul Conway; Robert Buick; Cllr Tony Popham; Stephen Clark; Jane Dawes; Rachel Thomas, Laura Jones.

7 Findings of the Workshop

The key factors for operating principles identified in the second breakout session have been collated by Arup and are summarised as a slide in Appendices B and C.

Both breakout groups identified safety and compliance with international regulatory frameworks amongst the highest priorities. Summary points noted in the feedback from the break-out sessions include:

- The importance of the concept of respite. That is, providing predictable relief from aircraft noise for periods of time:
 - Any respite scheme for night time will likely need to differ from that during the day.
 - A respite scheme could help reduce the impacts of late running departures.
 - The duration of a respite scheme time interval at night is important for communities. One suggestion was for a two day duration of respite.
 - A 'creative' concept of respite at night may be attractive for communities, based on the smaller number of flights involved compared to day time.
 - The need to consider communities located in between flight routes when setting the spatial separation of any respite tracks.
- For Heathrow night flights, noise should be accorded priority over NO_x emissions and CO₂/ fuel burn when interpreting the Government's generic guidance on altitude based environmental priorities below 7000ft. Furthermore, application of these priorities should not compromise operational capabilities.
- Community representatives commented that where new capacity becomes available, flights should be allocated to the daytime (07.00-23.00) in preference to the shoulder periods (23.00-23.30 and 06.00-07.00).

- There was no consensus position amongst the community representatives on whether late running aircraft or early morning arrivals should be accorded highest priority.
- For late running departures, airlines need to achieve a balance between impacts on passengers and impacts on communities. Community representatives commented that they believed late departures affect fewer passengers than members of the community.
- Both communities and industry representatives identified the need for night flights policy to be informed by robust evidence on the economic, social and environmental/ health benefits and disbenefits.
- Aircraft are required to comply with international regulatory frameworks, so global consistency in airport operating requirements is important to airlines.
- The importance of coherent land use planning policy to help reduce impacts on noise sensitive properties, as per the ICAO's Balanced Approach. This would help ensure that the improvements delivered by quieter aircraft and operating practices are not eroded by the encroachment of new noise sensitive properties, particularly in higher noise exposed areas.

8 Next Steps

Arup concluded the workshop by explaining the next steps were as follows:

- i) HAL will circulate the 'overview presentation' to the delegates.
- ii) Arup will produce a summary note of the workshop. (This document).
- iii) HAL will circulate the summary note to the delegates.
- iv) The findings of the workshop will be used by HAL to inform the ongoing management of night flights and the formulation of the voluntary Quiet Nights Charter.

Appendix A

Workshop Attendees

1. Graham Young, Richings Park Residents Association
2. Councillor Wendy Matthews, South Bucks DC
3. Peter Willan, Richmond Heathrow Campaign
4. Margaret Majumdar, Ealing Aircraft Noise Action Group
5. Surindapal Suri, London Borough of Hounslow
6. John Stewart, HACAN
7. Paul Conway, Englefield Green
8. Robert Buick, Englefield Green
9. Councillor Tony Popham, Elmbridge Borough Council
10. Stephen Clark, Teddington Action Group
11. Geoff Clark, Virgin
12. Chris Carter, BA
13. John Crook, NATS
14. Harri Howells, NATS
15. Gerry O'Connell, IATA
16. Mark Gardiner, LACC
17. Laura Jones, Heathrow Airport Ltd
18. Rick Norman, Heathrow Airport Ltd (in part)
19. Rachel Thomas, Heathrow Airport Ltd
20. Pete Rafano, Heathrow Airport Ltd
21. Jane Dawes, Heathrow Airport Ltd
22. Richard West, Heathrow Airport Ltd
23. Xavier Oh, Heathrow Airport Ltd
24. Steve Leighton, Helios (Workshop Presenter)
25. David Twine, Arup (Workshop Facilitator)
26. Brendan Creavin, Arup (Workshop Facilitator).

Appendix B

**Night Flights: Identified Key
Factors for Operating Principles
and their Priorities.**

Airlines and ANSP

KEY FACTORS – Airlines and ANSP

Reducing Priority

1. Operational

Safety

Comply with international regulatory frameworks

Prioritise needs of passengers alongside community for late running departures

Prioritise needs of community alongside passengers for late running departures

Minimise aircraft fuel burn and CO2 emissions through operational optimisation: CDA; final joining altitude etc

More early arrivals to reduce the risk of late running departures

Introduce multiple PBN routes in order to provide respite

Keep as high as possible for as long as possible

Prioritise noise over CO2 and NOx at night below 7000ft or higher

Minimise QC count of night flying aircraft

Minimise frequency of aircraft overflight (alternation of departure tracks etc).

Maximise predictability of aircraft overflight

No flights between 23.00-07.00 (scheduled and unscheduled)

More respite before 23.30hrs with greater risk of running post 23.30hrs

Statutory requirement to achieve WHO noise guidelines according to an agreed timetable

Voluntary QC4 aircraft operating ban by 2020 (and some QC2s eg A380, A320)

Operational restrictions on noisiest aircraft to be based on in-use noise levels

2. Balancing Effects

Take account of population density in night flights policy

Communities exposed to higher noise levels or overflight numbers should receive more mitigation/ compensation

Provide predictable periods of relief from aircraft noise

Take account of community socio-economic factors in determining the distribution of flight tracks.

Optimise noise environment for communities further out (on departures)

Accept more noise in some communities in order to reduce for others

Optimise noise environment for communities closer in (on departures)

Rural versus urban

Review noise policy: concentrate or disperse

Two day rolling planned respite

3. Process Aspects

Airspace to be designed to objective quantitative noise standards

Take account of economic and social benefits and disbenefits of night flights in night flights policy

Take account of noise health effects in airspace planning (including monetisation)

All times are Heathrow local

Heathrow

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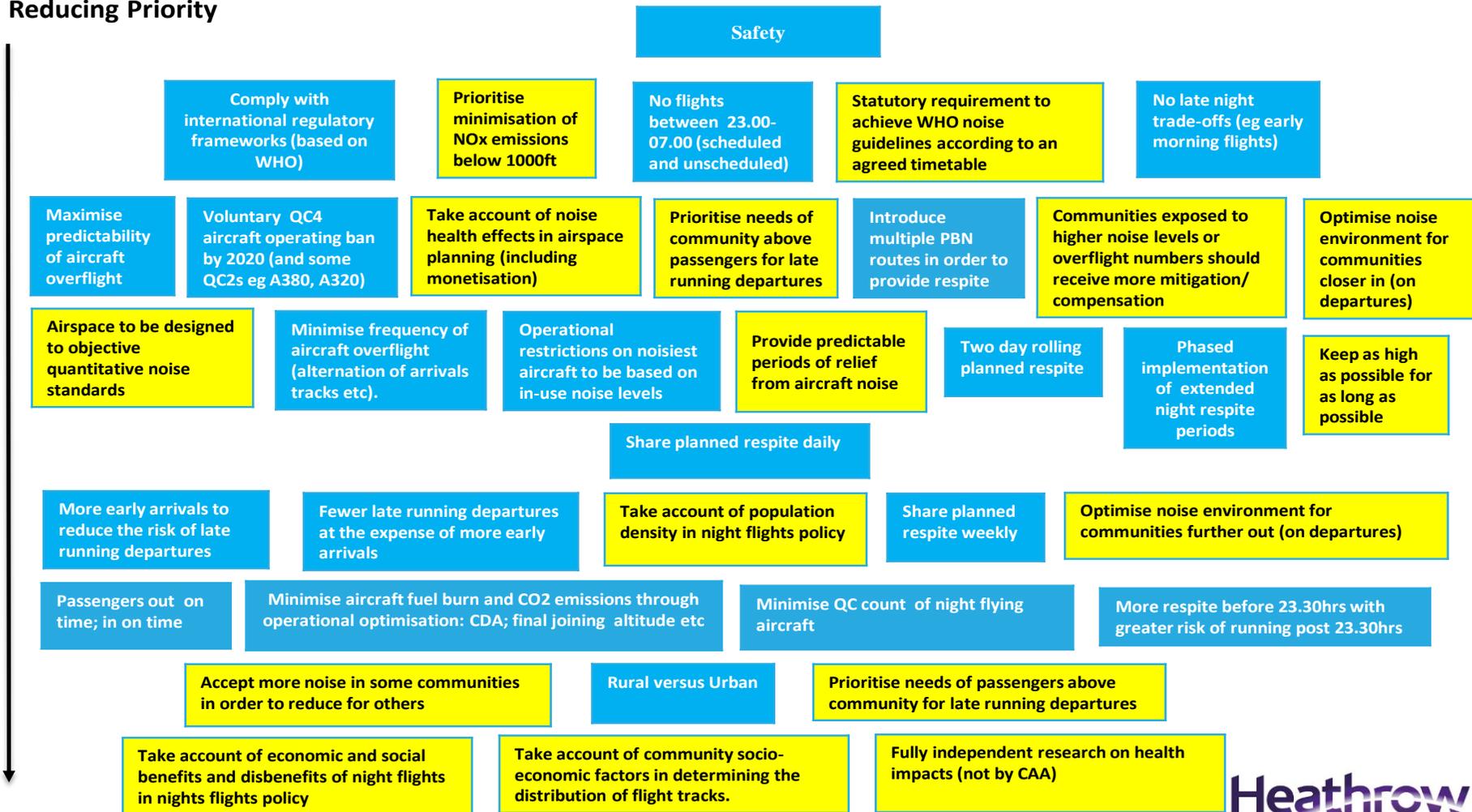
Appendix C

Night Flights: Identified Key
Factors for Operating Principles
and their Priorities.

Community

KEY FACTORS – Community

Reducing Priority



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All times are Heathrow local

