

## **LONDON LUTON AIRPORT**

A11060-N69-DR

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## **PROCESSING OF NMT RESULTS**

### **1.0 INTRODUCTION**

Bickerdike Allen Partners LLP (BAP) have been preparing noise contours for London Luton Airport for many years. As part of the process measured noise levels correlated with individual aircraft movements have been provided by London Luton Airport Operations Limited (LLAOL). These measured noise levels have then been compared to predictions as part of regular validation exercises.

This note briefly describes how BAP process the supplied correlated noise measurements to remove erroneous data.

### **2.0 NOISE MODELLING**

The correlated noise measurements from the airport's Noise and Track Keeping system (NTK) are processed by BAP to remove potentially erroneous noise measurements. As an example of the processing that BAP undertake, the sections below set out the ways in which the 2018 NMT data was filtered for use in the 2019 validation. It should be noted that in many cases a single correlated noise measurement will be excluded for more than one reason. The overall effect was just over 3% of the 131,745 correlated noise measurements being excluded.

#### **2.1 Wrong NMT**

In some cases, a noise result is recorded at an NMT that a flight would not have overflowed. For instance, measured results from NMT1, which is located to the east of the airport, are attributed to departures using runway 26, which depart to the west of the airport. Such instances are excluded from the validation.

#### **2.2 Duration**

Excessively short or long measurements can be indicative of non-aircraft noise sources interfering with a measurement or only partial capture of aircraft events. For the 2018 data measurements of below 10 seconds or above 60 seconds were excluded from the validation.

### **2.3 Distance from NMT**

One of the parameters recorded by the NTK system is the “Distance to NMT”, this is a combination of an aircraft’s altitude and lateral distance from the NMT, as measured by the track keeping system at the time of the  $L_{max}$ . Aircraft that are recorded as relatively distant from the NMTs are excluded from the validation. For the 2018 data, arriving aircraft that were recorded as more than 500m from NMT1, departing aircraft that were more than 1,300m from NMT1 and departing aircraft that were more than 1,500m from NMTs 2 & 3 were excluded from the validation.

### **2.4 Manual Exclusion**

Excessively quiet or loud measurements are manually reviewed. In 2018 only 1 such measurement was excluded on this basis. This was attributed to an Airbus A320 arrival on 31<sup>st</sup> July 2018 at 14:21. The measured SEL was 126 dB(A), which is more than 25 dB louder than the next loudest A320 arrival, which is not explainable by operational differences.

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