



# **Expansion of Hong Kong International Airport into a Three-Runway System**

Noise Contour Report No. 1 for 3RS Operation

April 2026

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# **Expansion of Hong Kong International Airport into a Three-Runway System**

Noise Contour Report No. 1 for 3RS Operation

April 2026

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**This Submission of Noise Contour Report No.1 for 3RS Operation**

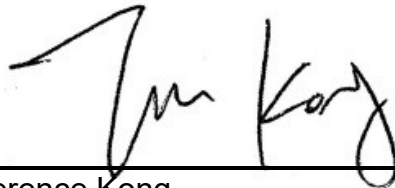
**has been reviewed and certified by**

**the Environmental Team Leader (ETL) in accordance with Section 5.6 of**

**the Aircraft Noise Monitoring and Audity Plan and Condition 1.9 of**

**Environmental Permit No. EP-489/2014.**

**Certified by:**

A handwritten signature in black ink, appearing to read 'Terence Kong', written over a solid horizontal line.

Terence Kong  
Environmental Team Leader (ETL)  
Mott MacDonald Hong Kong Limited

Date

16 April 2026

Our Ref : 60440482/C/RMKY260423

By Email

Airport Authority Hong Kong  
HKIA Tower, 1 Sky Plaza Road  
Hong Kong International Airport  
Lantau, Hong Kong

Attn: Mr. Lawrence M L Tsui, Principal Manager. Environmental Compliance

23 April 2026

Dear Sir,

**Contract No. 3102**  
**3RS Independent Environmental Checker Consultancy Services**

**Verification of Noise Contour Report No.1 for 3RS Operation**

Reference is made to the ET's submission of Noise Contour Report No.1 for 3RS Operation according to Section 5.6 of the Aircraft Noise Monitoring and Audit Plan and Condition 1.9 of EP-489/2014, certified by the ET Leader on 16 April 2026.

We would like to inform you that we have no comment on the captioned submission. Therefore we write to verify the captioned submission in accordance with the requirement stipulated in Section 5.6 of the Aircraft Noise Monitoring and Audit Plan and Condition 1.9 of EP-489/2014.

Should you have any query, please feel free to contact the undersigned at 37290380.

Yours faithfully,  
AECOM Asia Co. Ltd.



Roy Man  
Independent Environmental Checker

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# 1 Introduction

## 1.1 Background

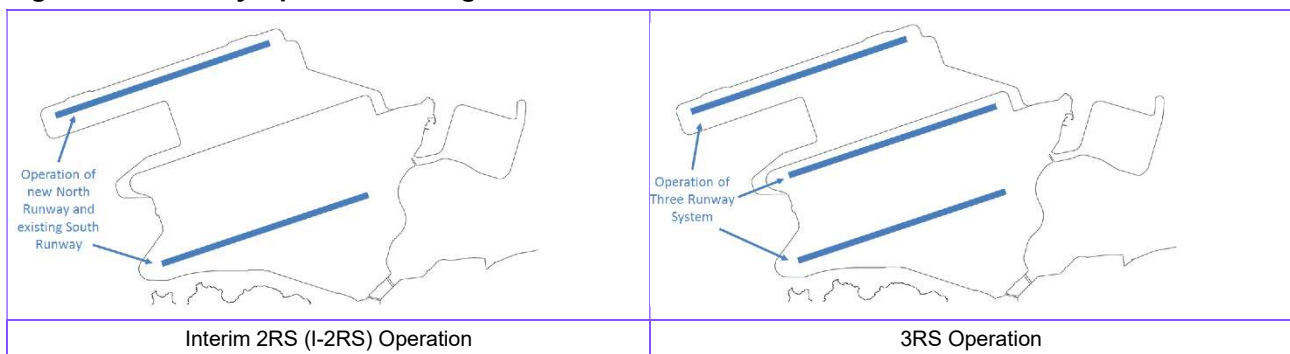
Under the Environmental Impact Assessment Ordinance (EIAO), the Environmental Impact Assessment (EIA) Report and the Environmental Monitoring and Audit (EM&A) Manual (Register No.: AEIAR-185/2014) prepared for the “Expansion of Hong Kong International Airport into a Three-Runway System” (hereafter referred to as the “3RS Project” or the Project) have been approved by the Environmental Protection Department (EPD), and an Environmental Permit (EP) (Permit No.: EP-489/2014) has been issued for the Project.

The Project is located on a new land formation area immediately north of the original Hong Kong International Airport (HKIA) in North Lantau, covering a permanent footprint of approximately 650 ha. As stated in the approved 3RS EIA Report, the Project primarily comprises:

- New third runway with associated taxiways, aprons and aircraft stands;
- New passenger concourse building;
- Expansion of the existing Terminal 2 (T2) building; and
- Related airside and landside works, and associated ancillary and supporting facilities.

As presented in the approved 3RS EIA Report, the runway operational configuration will be implemented in phases as shown in **Figure 1.1** below. Upon completion of the new third runway and associated taxiways, and with operation familiarisation starting on 8 July 2022 and formal commencement of operation on 25 November 2022, the previous north runway was temporarily closed for modification works. During this interim period as described in the approved 3RS EIA Report, the existing South Runway and the new third runway (which is designated as the new North Runway) were in operation and this is hereafter referred to as the interim two-runway (I-2RS) operation. Upon completion of all essential infrastructure and facilities, the airport has been operating under the 3RS since 28 November 2024, which is hereafter referred to as the 3RS operation.

**Figure 1.1: Runway Operation Configuration**



The aircraft noise impact assessment completed as part of the approved 3RS EIA Report had assessed the aircraft noise impact associated with the above-mentioned I-2RS and 3RS operation. These covered both the Worst Operation Scenario and Design Capacity Scenario as two assessment scenarios for the 3RS operation in addition to the Interim Phase Scenario for the I-2RS operation. Relevant aircraft noise mitigation measures had been recommended and adopted as operational assumptions in the detailed aircraft noise modelling undertaken for the above-mentioned assessment scenarios.

In accordance with Section 4.1.2.1 of the Updated Environmental Monitoring and Audit (EM&A) Manual<sup>1</sup>, the Airport Authority Hong Kong (AAHK) should prepare a Noise Contour Report in at least every five years to compare actual airport operation to forecast airport operation with respect to aircraft noise, taking into account data collected on actual aircraft operational levels, fleet mix, runway and flight track utilization; and produce an updated noise contour using the most currently available and internationally accepted noise modelling methodology.

A Noise Contour Report (NCR) for the first full year operation of the third runway (i.e., the first full year of I-2RS operation) was already submitted by AAHK to EPD on 18 February 2025 to meet the requirements set out in Section 4.1.5.1 of the Updated EM&A Manual. According to EP Condition 2.22, which is also referenced in the above-mentioned Section 4.1.5.1, an updated Noise Exposure Forecast (NEF) 25 contour with actual operational data shall be submitted to the Director for approval no later than three months after a full year of operation of the Project (i.e., a full year of the 3RS operation).

Furthermore, according to Section 5 of the Aircraft Noise Monitoring and Audit (ANM&A) Plan<sup>2</sup>, the first NCR for the 3RS operation shall be submitted to EPD no later than 3 months after the first full year of 3RS operation when 12 months operational data are available.

## 1.2 Purpose of this Report

This NCR No.1 for the 3RS operation has been prepared to present the updated NEF 25 contour for the first full year operation of the 3RS Project, i.e., from 28 November 2024 to 27 November 2025. This Report is prepared to confirm the representativeness of the earlier noise analyses in the approved 3RS EIA Report, and demonstrate that, with the implementation of relevant and sufficient aircraft noise mitigation measures, the updated NEF 25 contour has not encroached onto any new noise sensitive receivers (NSRs).

## 1.3 Prediction Verification

As described in Section 3.5 of the ANM&A Plan, a prediction verification exercise was previously undertaken based on airport operational data from the first full year of I-2RS operation that involved the use of the third runway. For the 3RS operation, although the Updated EM&A Manual has not specified the need to submit a separate Prediction Verification Report, a similar prediction verification exercise has been performed and the findings are presented in **Annex I** of this NCR.

## 1.4 Structure of this Report

Following this introductory section, this NCR is structured as follows:

- **Section 2** Updated NEF 25 Contour and Reporting Requirements
- **Section 3** Aircraft Noise Simulation Methodology
- **Section 4** Updated NEF 25 Contour Results
- **Section 5** Conclusion

Supporting information and technical details referred to in the main text are provided in **Appendices A to C**. The findings of the prediction verification exercise undertaken for the 3RS operation are presented in **Annex I**.

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<sup>1</sup> The Updated EM&A Manual is available on the 3RS project's dedicated website and can be located at: <https://env.threerunwaysystem.com/ep%20submissions/202502%20EM&A%20Manual/Updated%20EM&A%20Manual.pdf>

<sup>2</sup> The ANM&A Plan is available on the 3RS project's dedicated website and can be located at: [https://env.threerunwaysystem.com/ep%20submissions/202502%20EM&A%20Manual/Updated\\_EMA\\_Manual\\_4th\\_files/ANM&AP.pdf](https://env.threerunwaysystem.com/ep%20submissions/202502%20EM&A%20Manual/Updated_EMA_Manual_4th_files/ANM&AP.pdf)

## 2 Updated NEF 25 Contour and Reporting Requirements

As described in **Section 1**, an updated NEF 25 contour based on actual operational data is required under EP Condition 2.22 and Section 4.1.5.1 of the Updated EM&A Manual, while the first NCR for the 3RS operation is required under Sections 5.2 and 5.6 of the ANM&A Plan. The aforementioned requirements are reproduced in italics below.

### **EP condition 2.22**

*2.22 The Permit Holder shall, no later than 3 months after a full year of operation of the Project, submit 3 hard copies and 1 electronic copy of an updated Noise Exposure Forecast (NEF) 25 contour with actual operational data to the Director for approval. Thereafter the Permit Holder shall review the operational data annually and update the NEF25 contour if there are major deviations from the assumptions adopted in the approved EIA report (Register No. AEIAR-185/2014).*

### **Section 4.1.5.1 of Updated EM&A Manual:**

*4.1.5.1 As the aircraft noise impact assessment was undertaken on the basis of projected air traffic movements and estimated fleet mix, it is recommended that at regular intervals of at least every five years during the first 20 operational years of the project, actual flight data obtained from local Air Traffic Control radar systems should be acquired and analysed with a similar aircraft noise modelling methodology to confirm the representativeness of the earlier noise analyses. The first Noise Contour Report shall be prepared upon availability of the airport operation data for the first full year operation of the third runway of the project. In accordance with the requirements set out in Condition 2.22 of the EP, an updated NEF 25 contour shall also be submitted no later than 3 months after a full year of operation of the 3RS project. Similar approach adopted to process radar data for prevailing scenario contour might be applied and the detailed methodology shall be agreed with EPD.*

### **Section 5.2 of ANM&A Plan**

*The Noise Contour Report shall present the updated NEF 25 contour produced based on actual airport operational data for the purpose of determining changes when compared to the previous analysis conducted based on forecasted data as presented in the approved 3RS EIA Report, and assess the need for any remedial measures. The Report will confirm if there is any encroachment of the NEF 25 contour onto new NSRs that was not predicted in the approved 3RS EIA Report. The first Noise Contour Report shall be prepared after the first full year (or 12 months) of airport operational data is available for the I-2RS operation, whereas the next Noise Contour Report shall be prepared after the first full year (or 12 months) of operational data is available for the 3RS operation and submitted to EPD for approval no later than 3 months after a full year of operation of the Project i.e., the 3RS operation.*

### **Section 5.6 of ANM&A Plan**

*In accordance with the requirements set out in EP Condition 2.22, the first Noise Contour Report for the 3RS operation shall be prepared when the first full year (or 12 months) of airport operation data is available for the 3RS operation. The Noise Contour Report shall be certified by the ET Leader and verified by the IEC and submitted to EPD no later than 3 months after the first full year of 3RS operation when 12 month operational data are available to meet the EP requirements. Thereafter AAHK shall review the operational data annually and update the NEF 25 contour if there are major deviations from the assumptions adopted in the approved 3RS EIA Report.*

*After the submission of the first Noise Contour Report for the 3RS operation, the subsequent Noise Contour Report shall be prepared at intervals not exceeding every five years for the first 20 years of the Project based on the requirements set out in Section 4.1.5.1 of the Updated EM&A Manual.*

*At such time it is considered that the updated NEF 25 contour may start to encroach onto any additional NSRs, or when it is considered that there are major deviations from the assumptions adopted in the approved 3RS EIA Report, the need for further mitigation and update of the NEF 25 contour more frequently than every five years shall be evaluated.*

## 3 Aircraft Noise Simulation Methodology

### 3.1 Computational Model for Aircraft Noise

This section presents details of the computational model that has been agreed with EPD for use in the aircraft noise analysis for preparing the updated NEF 25 contour for the first full year of 3RS operation. Further details of the aircraft noise modelling methodology agreed with EPD prior to the analysis are presented in the sections below. The agreed aircraft noise modelling methodology is consistent with that adopted for the NCR for the first full year of I-2RS operation submitted to EPD on 18 February 2025, and was considered to be in order by EPD on 28 February 2025.

#### 3.1.1 Computational Model for Aircraft Noise Analysis

As per Section 4.1.2.1 of the Updated EM&A Manual, updated noise contours shall be produced using the most currently available and internationally accepted noise modelling methodology. In relation to this, it shall be noted that while the Integrated Noise Model (INM) was used in producing the aircraft noise contours presented in the approved 3RS EIA Report, the U.S. Federal Aviation Administration (FAA) has replaced the INM with the Aviation Environmental Design Tool (AEDT) since May 2015.

Before the introduction of AEDT, noise and emissions from aircraft operations were assessed separately using the INM and the Emissions Dispersions Modelling System (EDMS) tools, respectively. In May 2015, the FAA introduced AEDT to replace INM and EDMS. AEDT combines noise and emissions modelling capabilities in a single tool for regulatory compliance actions. AEDT provides a more comprehensive assessment of aircraft operations by combining noise and emissions modelling into one tool, streamlining the regulatory compliance process. The AEDT Functionality Comparison published by the FAA details the key differences between INM and AEDT. For easy reference, a copy of this published information is given in **Appendix A**.

Both the old INM and the new AEDT are in compliance with the algorithm and framework of the International Civil Aviation Organization (ICAO) Doc 9911 *Recommended Method for Computing Noise Contours around Airports*, as accepted in the approved 3RS EIA Report. By adopting the same modelling approach and assumptions used in the 3RS EIA stage, a relevant sensitivity analysis undertaken before by AAHK's consultants suggests that the differences in NEF levels attributable to the noise modelling software change from INM to AEDT are considered to be negligible. This is because the input parameters of the noise model used are similar. Therefore, the resulting noise predictions are expected to be very similar.

The AEDT is now widely used worldwide by the civilian aviation community for evaluating aircraft noise impacts in the vicinity of airports. For example, all airports in the US currently adopt AEDT for developing noise contours, including the San Francisco International Airport, the Oakland International Airport and Memphis International Airport, etc. which are comparable to the HKIA in terms of airport operation and capacity.

Besides, AEDT has been used for simulating the NEF contours presented in the NCR for the first full year of I-2RS operation, which was considered to be in order by EPD on 28 February 2025.

In view of the above, the AEDT has been used for simulating the updated NEF 25 contours required under Section 4.1.5 of the Updated EM&A Manual and EPD's agreement has been sought prior to the analysis.

#### 3.1.2 AEDT Computational Model

AEDT contains the most comprehensive aircraft noise database. AEDT's calculation methodologies and metrics are not restricted to standards or conditions unique to particular countries or regions. Therefore, AEDT is an invaluable tool for undertaking aircraft noise impact assessments and analysis worldwide. The core computation modules in AEDT are based on and compliant with internationally accepted methodologies for

computing noise levels around airports. The latest available version of AEDT, i.e., version 4a, at the time of developing the contours has been used in the aircraft noise modelling.

## 3.2 Aircraft Noise Modelling Process

### 3.2.1 Overview of the Modelling Process

The noise modelling process completed is similar to that undertaken at the 3RS EIA stage when the 2011 NEF noise contour was prepared based on daily radar data provided by the Civil Aviation Department (CAD) to illustrate the prevailing aircraft noise environment. This is as illustrated in **Figure 3.1** and further described below.

The process began with a review of the daily radar data that represented actual operational data for the first 12 months of 3RS operation provided by CAD in LT6 format. The LT6 are text files containing flight tracking data from flights inside the airport terminal area. There is one LT6 file for each 24-hour day of airport operations. A custom software tool has been used to convert the LT6 text files into SQLite database format. The tool automatically removed irrelevant data such as those related to helicopter, military, and government operations. In addition, the tool removed aircraft that operated in the terminal area but did not arrive at or depart from HKIA. The tool also adjusted the start and end points for flight tracks to the corresponding runway end as required for AEDT modelling.

The tool stored flight track data (track points) separated from flight attribute data. An aircraft flight attribute includes the flight's time, type, and runway. A standard departure flight profile is calculated based on the distance between the origin and destination airports of the flight operation.

Once the LT6 files were converted into the SQLite database format, the flight attribute data and flight tracks were reviewed based on an established review process. Any missing data such as aircraft type, destination airport, runway used have been corrected by using available data from similar records or other data sources such as the Airport Operation Database (AODB) of AAHK. Any missing runway data has also been corrected by reviewing the flight tracks in geographic information system (GIS) software such as QGIS.

After all the necessary corrections were made, the aircraft operations count was adjusted to match the total number of official aircraft operations for the selected period in order to account for any minor discrepancy between the available airport operational data. This adjustment was performed by applying a scaling factor to each aircraft operation using the processing tool. The scaling factor was estimated by dividing the total number of official aircraft operations by the number of records in the database of processed radar data. According to AAHK, the total number of official aircraft operations during the first 12 months of 3RS operation is 392,024 while the number of records in the database of processed radar data during the same period is 389,422. Therefore, the estimated scaling factor is  $392,024 / 389,422$ , i.e., 1.006682.

Input Data Tables have been generated by the processing tool and these are listed below and presented in **Appendix B**. The validity of these input data, which are based on existing operational data for the first 12 months of the 3RS operation at HKIA, have been confirmed with CAD.

- Table B.1: Fleet Mix Arrival/ Departure Split
- Table B.2: Departure Stage Length Profile Number Distribution
- Table B.3: Arrivals Distribution Over Operational Period
- Table B.4: Departures Distribution Over Operational Period
- Table B.5: Arrivals Runway Utilization by Fleet Mix and Operational Period
- Table B.6: Departures Runway Utilization by Fleet Mix and Operational Period
- Table B.7: Arrivals Runway Utilization by Operational Period
- Table B.8: Departures Runway Utilization by Operational Period
- Table B.9: Departure Stage Length Distribution

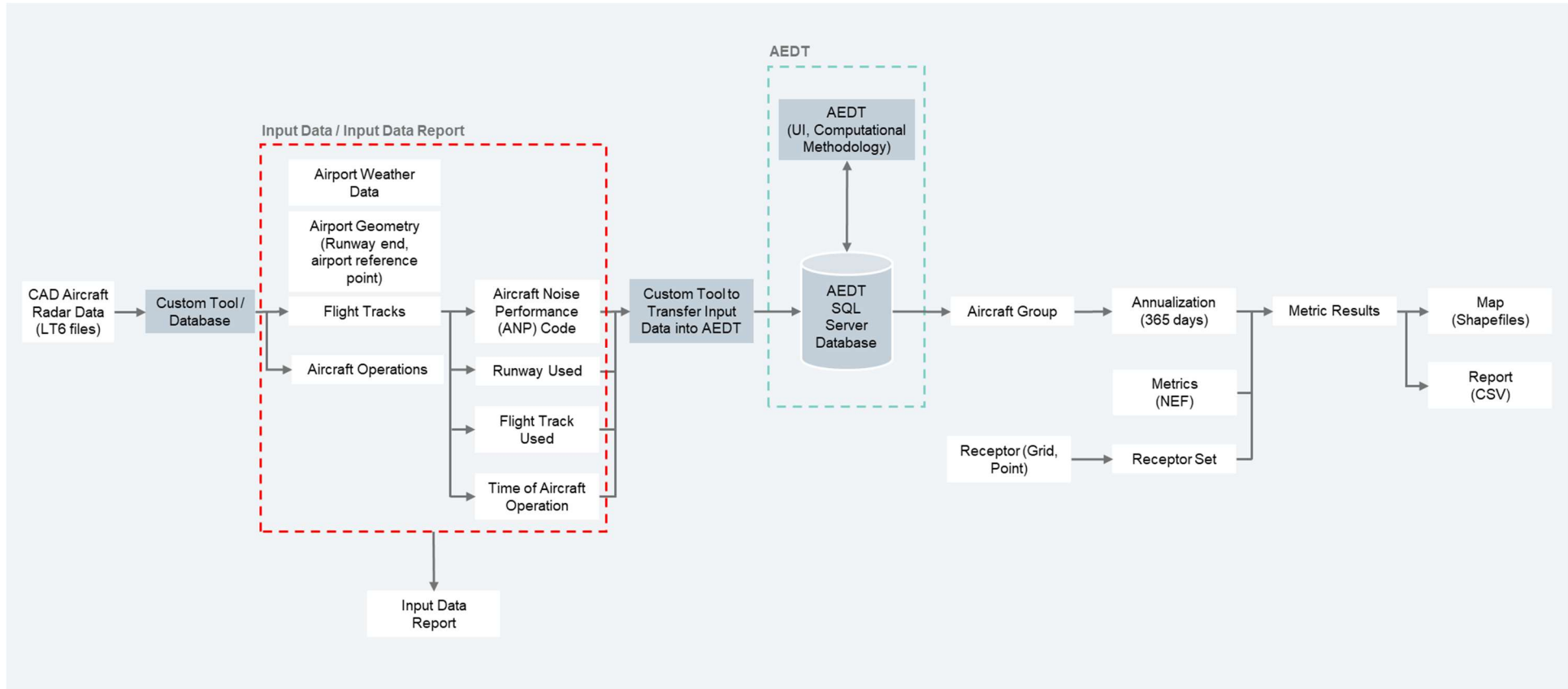
The operational time periods, including Day 1 to Day 2 and Night 1 to Night 5, considered in the aircraft noise modelling for the 3RS operation, are presented in **Tables B.3 to B.8** in **Appendix B**.

Among the operational periods considered, there was a dual-runway operation mode when one of the three runways had to be closed for maintenance work; and a single-runway operation mode when the South Runway is also put on standby where possible at night during Night 4 and Night 5.

After reviewing and accepting the Input Data Tables, the aircraft operations data were directly transferred from the SQLite database into an AEDT Study dataset using a custom tool. This process has been simplified by the creation of an AEDT study template.

In this NEF contour simulation, the airport reference point coordinates, runway end coordinates, weather parameters, and receptor set have also been defined as further illustrated in the sections below.

Figure 3.1: Aircraft Noise Modelling Process



### 3.2.2 Runway Information

**Table 3.1** summarizes the runway end coordinates that represent the start setting out points of TORA (Takeoff Run Available) used in the AEDT modelling, which are the same as those adopted in the NCR presented for the I-2RS operation. When compared with the relevant table presented in the approved 3RS EIA Report, it can be noted that the coordinates that represent the start of the 25R TORA and accordingly the displaced threshold distance have been updated, with the start of 25R TORA shifted to the east by 174m.

The overarching aim of the above-mentioned shift is to enable vessels with up to 30m air-draft to travel along the marine channels close to the HKSAR boundary during the 25R take-off (and 07L approach) operations, without infringing the protective safeguarding surfaces. The shift in the start of 25R TORA was achieved by providing an additional runway extension that is located within the runway end safety area. The TORA remains as 3,800m, but has been correspondingly shifted to the east to achieve the above mentioned objective. Other than the shift of the TORA start and end points, no runway setting out points, including the threshold coordinates, have been changed.

The above-mentioned start of 25R TORA shift was discussed in detail with CAD during the detailed design stage of the 3RS project before this was finally adopted as part of the runway design and operation.

**Table 3.1: Runway Information\***

Runway	WGS1984		Hong Kong 1980 Grid		Elevation (feet)	Displaced Threshold (feet)	Approach Glideslope
	Longitude	Latitude	Easting	Northing			
07L	113.880699	22.321073	805753.4610	820259.2030	26.3	571	3.0
25R	113.917147	22.332819	809510.9524	821553.0098	26.3	1142	3.1
07C	113.897498	22.310767	807482.1700	819114.6590	26.3	561	3.0
25C	113.928451	22.320740	810673.2960	820213.4510	26.6	561	3.0
07R	113.897975	22.296202	807528.2927	817501.7048	27.0	525	3.0
25L	113.932819	22.307431	811120.9735	818738.8805	27.0	0	3.0

\*The runway information is the same as that presented in the Noise Contour Report for I-2RS operation.

### 3.2.3 Airport Weather Parameters

The primary sources of meteorological information adopted in the aircraft noise modelling were datasets published by the Hong Kong Observatory (accessible at: <https://www.hko.gov.hk/>). These are as summarised in **Table 3.2** for the first year of 3RS operation. For a precise representation of the prevailing weather conditions, the weather data that exactly matches the 12-month period of the radar data have been utilized in creating the noise contour, i.e., from 28 November 2024 to 27 November 2025. This will ensure an accurate depiction of the conditions being modelled.

**Table 3.2: Key Meteorological Data at Hong Kong International Airport from 28 November 2024 to 27 November 2025\***

Month	Average Air Temperature (°C)	Average Relative Humidity (%)	Average Atmospheric Pressure (hPa)	Wind Speed (km/h)
Nov 24**	19.2	31.7	1020.4	16.6
Dec 24	18.5	52.0	1020.2	15.5
Jan 25	17.4	49.8	1020.6	15.4
Feb 25	17.6	67.1	1020.4	15.1
Mar 25	20.3	68.3	1016.6	14.7
Apr 25	24.1	69.9	1012.7	14.9
May 25	27.6	73.5	1009.8	15.0
Jun 25	29.3	76.7	1006.4	16.0
Jul 25	30.1	76.7	1001.2	15.5
Aug 25	29.6	75.2	1007.6	15.9
Sep 25	29.5	73.2	1008.5	16.4
Oct 25	27.6	67.5	1013.7	15.4
Nov 25***	22.6	57.7	1017.6	16.2
<b>12 months</b>	24.1	64.6	1013.5	15.6

Notes:

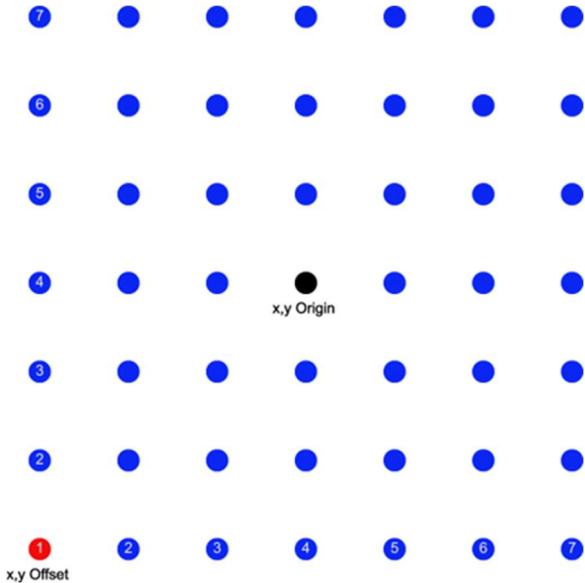
- \* Daily data were used to calculate the averages.
- \*\* Averages calculated based on data from 28 to 30 November 2024.
- \*\*\* Averages calculated based on data from 1 to 27 November 2025.

### 3.2.4 Receptors

Receptors define the location where noise levels are calculated. In AEDT, grid receptors would need to be defined for generating noise contours for use in the aircraft noise analysis. As shown in **Figure 3.2**, grid-type receptors are defined as individual receptors located at constant, defined spacings in a grid referencing a specified origin location.

The final configuration has been completed using the AEDT user interface once the data was successfully transferred into the corresponding AEDT study database. An aircraft group is defined in the final configuration of the AEDT study, which is then annualized to 365 days (i.e., by applying an annualization factor of 1/365). A metric result for NEF has also been configured. The results of the AEDT study (contours and reports in CSV files) have been exported for post-processing in geographic information systems such as QGIS or ArcGIS.

**Figure 3.2: Conceptual Representation of an AEDT Grid Receptor**



### 3.2.5 Aircraft Substitutions

The comprehensive Aircraft Noise and Performance (ANP) database contained in AEDT stores aircraft noise footprint information in the form of noise-power-distance (NPD) curves. NPD curves relate aircraft performance and noise level in relation to the distance between the aircraft and a receiver. The ANP database contained in the current version of AEDT (Version 4a) incorporates several updates to the database as described in the AEDT 4a Release Notes.

**Table C.1 in Appendix C** shows the aircraft substitutions adopted in the aircraft noise modelling. The aircraft substitutions were chosen based on their similarity in weight, thrust, and noise characteristics. The aircraft substitutions adopted are consistent with the information presented in *Appendix 7.3.2: Substitution List* of the approved 3RS EIA Report, with updates as highlighted below. The validity of the input assumptions with respect to aircraft substitutions have been confirmed with CAD.

- There are new ANP Aircraft IDs for specific aircraft families, including but not limited to, the A350, A320neo, B737 MAX 7/8/9 and B787-9, which did not exist in the ANP Database of INM when the approved 3RS EIA Report was developed and relevant assumptions had to be made. The ANP aircraft are now available in the AEDT fleet database for these aircraft and these have been adopted directly in the noise modelling to reflect the standard substitutions in the AEDT fleet database;
- The list includes general aviation aircraft that do not regularly operate at HKIA, for example Socata TBM-700 (TBM7), Pilatus PC-24 (PC24), and IAI Astra SPX (ASTR). The appropriate ANP aircraft have been identified for these airplanes in the aircraft noise analysis.

### 3.2.6 Data Quality Assurance (QA) and Quality Control (QC)

QA/QC is built into the input data processing and review process. The process was designed to meet the following key modelling performance criteria:

- **Auditability:** the input and output data of the noise modelling process must be auditable. To satisfy these criteria, a standard folder structure was developed to systematically store the input data, assumptions, and output data. Assumptions made during the modelling process are documented and saved in an appropriate folder.
- **Reliability:** the modelling process should deliver the same results when it is repeated with the same inputs and assumptions. Because noise modelling is performed using a standard computational methodology and computer software, processing of the input data must be systematic and consistent to produce reliable results. To achieve reliability, standard data processing tools and procedures have been developed to allow for consistent development of the input data.
- **Accuracy:** the accuracy of the noise contours is determined by the accuracy of the computational methodology, the aircraft noise performance data, and the computer software used. Using consistent and reliable input data processing procedures, tools, and assumptions increases the accuracy of the resulting noise contours.

## 4 Updated NEF 25 Contour Results

The approved 3RS EIA Report has assessed three operation scenarios for which relevant NEF contours were generated and presented as part of the approved 3RS EIA Report, including:

- Scenario 1 – Worst Operation Scenario (Drawing No. MCL/P132/EIA/7-3-007);
- Scenario 2 – Interim Phase Scenario (Drawing No. MCL/P132/EIA/7-3-008); and
- Scenario 3 – Design Capacity Scenario (Drawing No. MCL/P132/EIA/7-3-009).

These drawings have been reproduced in **Figures 4.1, 4.2 and 4.3**. As stated in Section 7.3.3.7 of the approved 3RS EIA Report, the Worst Operation Scenario represents the maximum noise emission operation mode, while the Design Capacity Scenario represents full 3RS operation where the Third Runway and the two existing runways (i.e., previous north runway and south runway) operate at their design capacities.

The updated NEF 25 contour for the first 12 months of 3RS operation has been simulated using the methodology described in **Section 3** and is presented in **Figure 4.4**. As shown in **Figure 4.4**, the footprint of the updated NEF 25 contour, simulated using actual operational data from the first 12 months of 3RS operation, largely falls on marine waters and the airport island where there are no noise sensitive uses as defined in Table 1A of Annex 5 of the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM).

A comparison between the updated NEF 25 contour presented in **Figure 4.4**, the Worst Operation Scenario NEF 25 contour (also named as the 2030 NEF 25 contour in the approved 3RS EIA Report) presented in **Figure 4.1**, and the Design Capacity Scenario NEF 25 contour (also named as the 2032 NEF 25 contour in the approved 3RS EIA Report) presented in **Figure 4.3** shows that the updated NEF 25 contour based on actual operations in the first 12 months of 3RS operation does not encroach onto any new NSRs.

**Figure 4.4** also shows that the updated NEF 25 contour only encroaches onto Sha Lo Wan and also certain village houses/ licensed structures situated along North Lantau shorelines. This is consistent with the predictions presented in the approved 3RS EIA Report (as reproduced in **Figures 4.1 and 4.3**) which had identified that after exhausting all practicable direct noise mitigation measures, it is unavoidable that some village houses/ licensed structures in and around Sha Lo Wan and certain village houses/ licensed structures along North Lantau shorelines would still be situated within the NEF 25 contours due to the close proximity of these areas to the airport.

Besides, as already described in Section 2.2.2.2 of the Submission of Procedures for Mitigation of Aircraft Noise, in line with the indirect mitigation measures already provided to Sha Lo Wan village at airport opening, AAHK had already delivered its commitment made in Section 7.3.2.10 of the approved 3RS EIA Report to either provide, or to pay for, noise insulation measures at all existing domestic houses/ structures within the other newly affected villages named in Table 7.3.2 of the approved 3RS EIA Report.

Relevant information was obtained from Lands Department and confirmed with Planning Department regarding the latest status of new small house applications in North Lantau and site visits were conducted on 10 and 13 April 2026. The information confirmed that there are no new noise sensitive uses as defined in Annex 5 of the EIAO-TM within the NEF 25 contour area.

Therefore, the updated NEF 25 contour has demonstrated that with the implementation of the noise mitigation measures planned and implemented for the 3RS operation, the details of which are as described in the above-mentioned Submission of Procedures for Mitigation of Aircraft Noise, no additional NSRs would be subject to adverse environmental impact under the requirements of the EIAO-TM.

## 5 Conclusion

In accordance with EP Condition 2.22 and Section 5 of the ANM&A Plan, an updated NEF 25 contour has been prepared for the first 12 months of 3RS operation (i.e., from 28 November 2024 to 27 November 2025) using actual operational data. The aircraft noise modelling process completed is similar to that undertaken at the 3RS EIA stage when the 2011 NEF noise contour was prepared based on daily radar data provided by CAD to illustrate the prevailing aircraft noise environment. The computational model and the noise modelling methodology had been agreed with EPD prior to the analysis.

The findings of the analysis have shown that the updated NEF 25 contour for the first year of 3RS operation largely falls on marine waters and the airport island where there are no noise sensitive uses as defined in Table 1A of Annex 5 of the EIAO-TM.

The updated NEF 25 contour only encroaches onto Sha Lo Wan and also certain village houses/ licensed structures situated along North Lantau shorelines. These are as predicted in the approved 3RS EIA Report, which had identified that after exhausting all practicable direct noise mitigation measures, it is unavoidable that some village houses/ licensed structures in and around Sha Lo Wan and certain village houses/ licensed structures along North Lantau shorelines would still be situated within the NEF 25 contour due to the close proximity of these areas to the airport. Besides, in line with the indirect mitigation measures already provided to Sha Lo Wan village at airport opening, AAHK had already delivered its commitment made in the approved 3RS EIA Report to either provide, or to pay for, noise insulation measures at all existing domestic houses/ structures within the other newly affected villages named in Table 7.3.2 of the approved 3RS EIA Report.

Information obtained from Lands Department and confirmed with Planning Department, together with findings from site visits, have confirmed that there are no new noise sensitive uses as defined in Annex 5 of the EIAO-TM within the NEF 25 contour area.

Therefore, the updated NEF 25 contour has demonstrated that with the implementation of the noise mitigation measures planned and implemented for the 3RS operation, no additional NSRs would be subject to adverse environmental impact under the requirements of the EIAO-TM.

# Figures

# 2030 NEF Contours

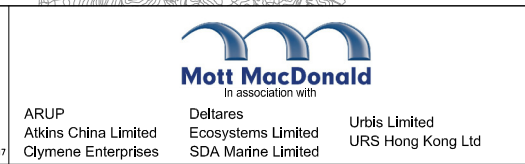
## Figure 4.1 NEF Contours for Worst Operation Scenario in Approved 3RS EIA Report

— NEF25 Contour  
— NEF30 Contour



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Rev.	Date	Description	Checked
A	28JUN13	FIRST DRAFT	TWKW
B	27AUG13	REVISED DRAFT	TWKW
C	28OCT13	SECOND DRAFT	TWKW
D	21FEB14	THIRD DRAFT	TWKW
E	11MAR14	FINAL	TWKW

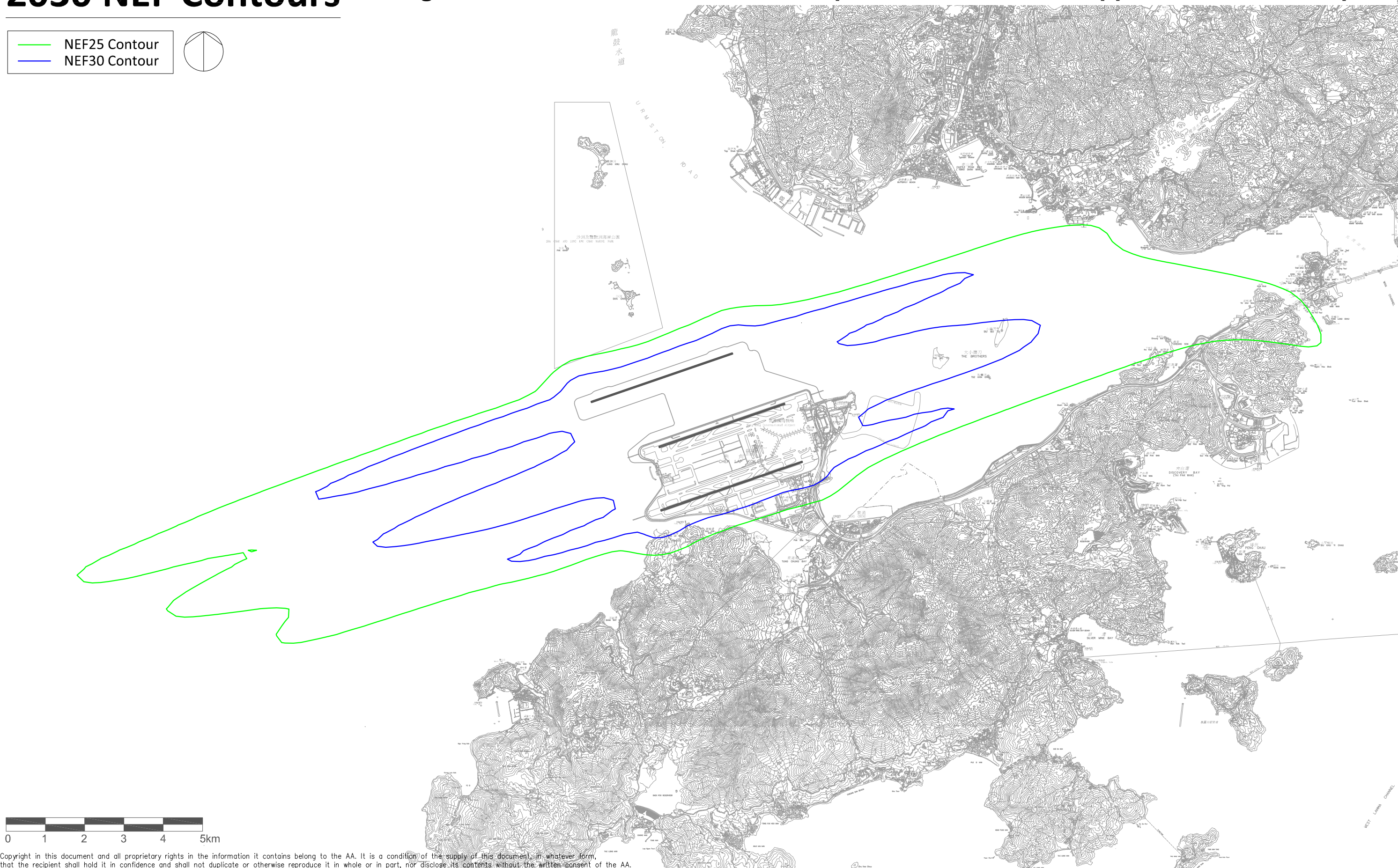


Title

### Noise Contours of Year 2030

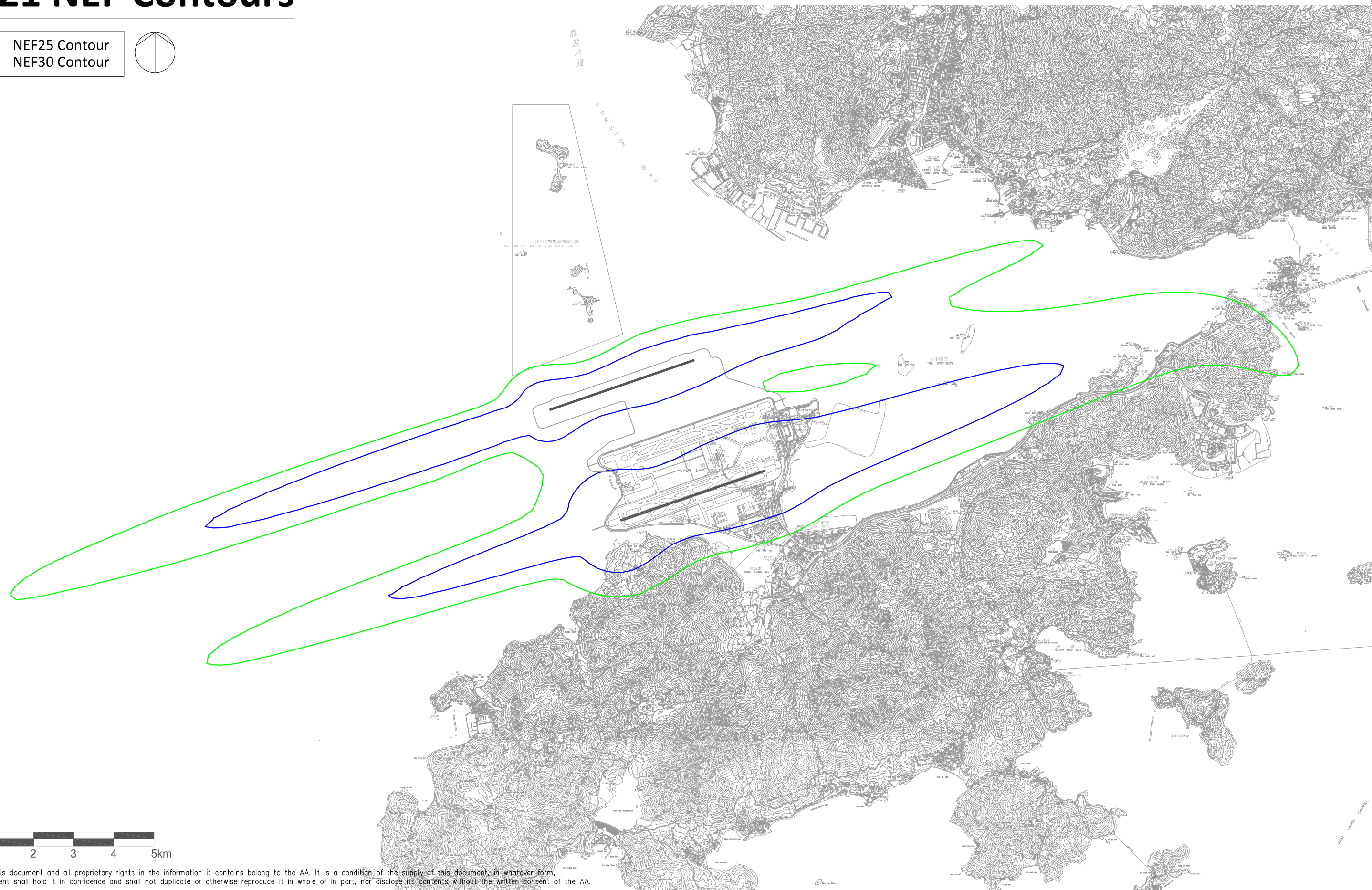
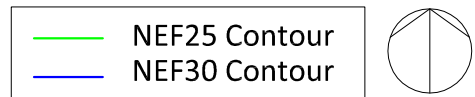
Consultant's Signatures for Approval		Date
Design	HC	13SEP13
Checkers	HC	13SEP13
Design Supervisor	EC	21MAR14
Authorised Representative	AFK	21MAR14

EXPANSION OF HONG KONG INTERNATIONAL AIRPORT INTO A THREE-RUNWAY SYSTEM	
Drawing No.	Scale at A3
<b>MCL/P132/EIA/7-3-007</b>	AS
Rev.	E



# 2021 NEF Contours

Figure 4.2 NEF Contours for Interim Phase Scenario in Approved 3RS EIA Report



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C	28OCT13	SECOND DRAFT	TWKW
D	28JAN14	THIRD DRAFT	TWKW
E	11MAR14	FINAL	TWKW



Title  
**Noise Contours of Year 2021**

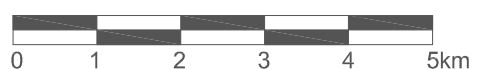
Consultant's Signatures for Approval		Date
Design	HC	13SEP13
Checkers	HC	13SEP13
Design Supervisor	EC	21MAR14
Authorised Representative	AFK	21MAR14

EXPANSION OF HONG KONG INTERNATIONAL AIRPORT INTO A THREE-RUNWAY SYSTEM	
Drawing No.	Scale at A3
<b>MCL/P132/EIA/7-3-008</b>	AS
Rev.	E

# 2032 NEF Contours

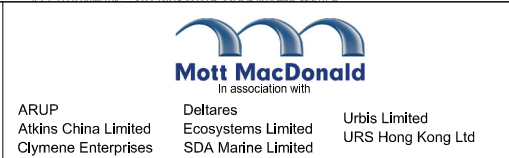
## Figure 4.3 NEF Contours for Design Capacity Scenario in Approved 3RS EIA Report

— NEF25 Contour  
— NEF30 Contour



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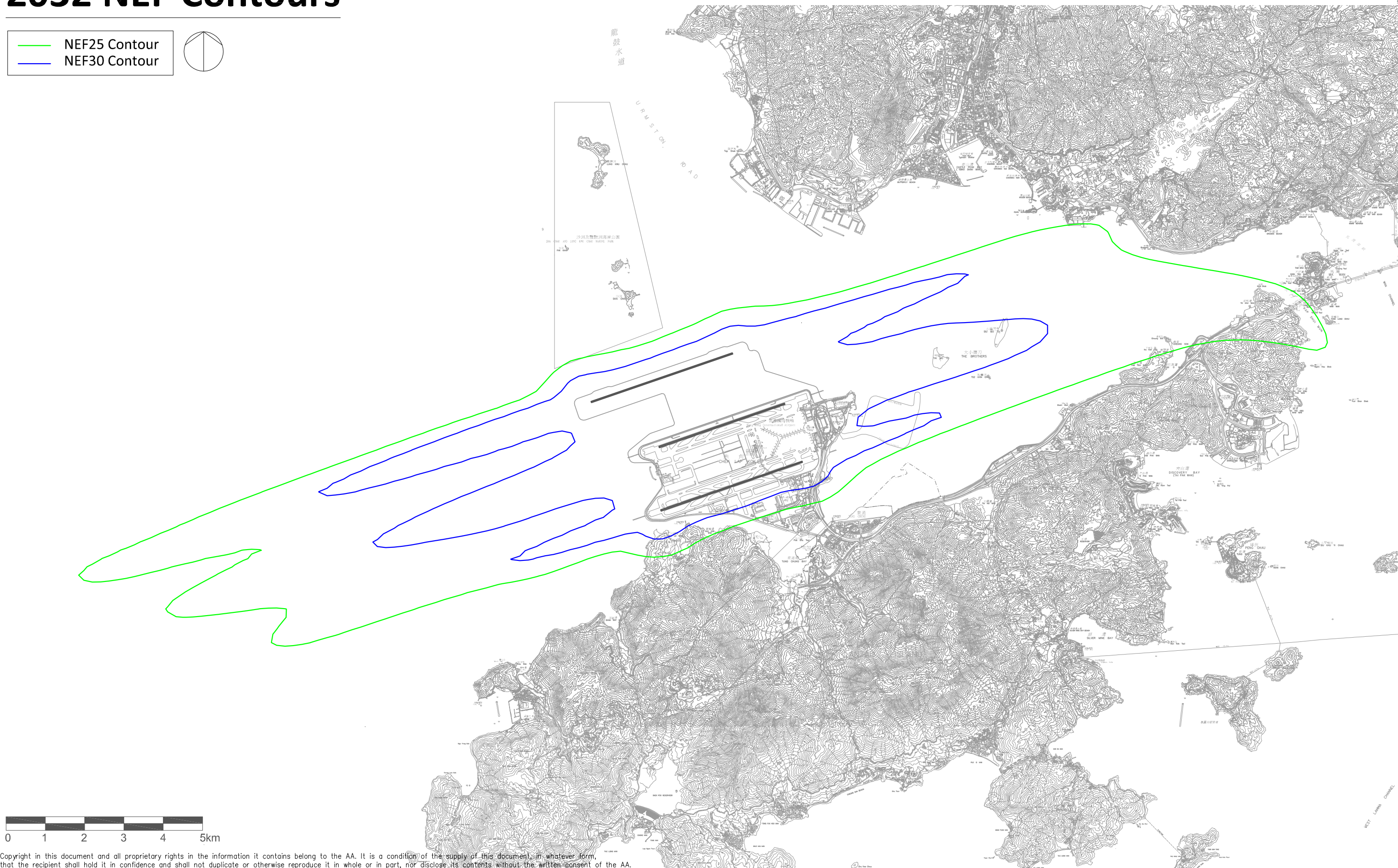
Rev.	Date	Description	Checked
A	28JUN13	FIRST DRAFT	TWKW
B	27AUG13	REVISED DRAFT	TWKW
C	28OCT13	SECOND DRAFT	TWKW
D	21FEB14	THIRD DRAFT	TWKW
E	11MAR14	FINAL	TWKW



Title  
**Noise Contours of Year 2032**

Consultant's Signatures for Approval		Date
Design	HC	13SEP13
Checkers	HC	13SEP13
Design Supervisor	EC	21MAR14
Authorised Representative	AFK	21MAR14

EXPANSION OF HONG KONG INTERNATIONAL AIRPORT INTO A THREE-RUNWAY SYSTEM	
Drawing No.	Scale at A3
<b>MCL/P132/EIA/7-3-009</b>	AS
Rev.	E





# LEGEND

 UPDATED NEF 25 CONTOUR



P2	APR 2026	CL	SECOND ISSUE	CL	JY
P1	FEB 2026	CL	FIRST ISSUE	CL	JY
Rev	Date	Drawn	Description	Chk'k'd	App'd

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Project

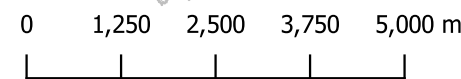
**EXPANSION OF HONG KONG INTERNATIONAL AIRPORT INTO A THREE-RUNWAY SYSTEM**

Title

**UPDATED NEF 25 CONTOUR FOR FIRST 12 MONTHS OF 3RS OPERATION (28 Nov 2024 to 27 Nov 2025)**

Designed	CL	Eng check	JY
Drawn	CL	Coordination	EY
Dwg check	CL	Approved	JY
Scale at A3	Status	Rev	
1:100000			

Drawing Number **FIGURE 4.4**



# Appendices

A.	AEDT Functionality Comparison published by FAA	21
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# A. AEDT Functionality Comparison published by FAA

## AEDT Functionality Comparison

Function Availability	INM	EDMS	AEDT											
			2a	2b	2c	2d	3b	3c	3d	3e	3f	3g	4a	
64-bit application				X	X	X	X	X	X	X	X	X	X	X
ESRI ArcGIS	N/A	N/A	10.0	10.2.5	10.2.5	10.2.5	10.2.5	10.2.5	10.2.5	10.2.5	10.2.5	10.2.5	10.2.5	200.8
Database Platform	DBF	DBF	SQL 2008 R2	SQL 2008 R2	SQL 2008 R2	SQL 2012	SQL 2012	SQL 2017	SQL 2017	SQL 2017	SQL 2017	SQL 2017	SQL 2022	SQL 2022
Microsoft .NET								4.03	4.03	4.03	4.03	4.03	4.03	8.0
Aircraft Lead (Pb) emissions & dispersion modeling														X
Helicopter fixed-point profiles														X
Expanded helicopter spectral class format														X
Helipad-to-Helipad operations and tracks														X
Non-standard modeling report														X
View coverage area of terrain data and ambient data files														X
BADA Family 3 aircraft performance model			X	X	X	X	X	X	X	X	X	X	X	X
BADA Family 4 aircraft performance model							X	X	X	X	X	X	X	X
Procedures with altitude controls			X	X	X	X	X	X	X	X	X	X	X	X
Procedures with speed controls, for BADA 4 only							X	X	X	X	X	X	X	X
Reduced thrust profiles and alternative weight profiles <sup>1</sup>							X	X	X	X	X	X	X	X
User-defined BADA 4 profiles							X	X	X	X	X	X	X	X
Runway to runway sensor path operations			X	X	X	X	X	X	X	X	X	X	X	X
Partial sensor path operations (arrivals or departures), for BADA 4 only							X	X	X	X	X	X	X	X
Support for fixed-point profiles with BADA 4 performance model									X	X	X	X	X	X
Vertical pressure and temperature profiles that reflect atmospheric characteristics up to an elevation of 13km above sea level										X	X	X	X	X
Unified study for global/regional/airport analysis				X	X	X	X	X	X	X	X	X	X	X
Multi-threaded execution (not supported for AERMOD air quality analysis)	X		X	X	X	X	X	X	X	X	X	X	X	X
Real-time status and logging	X	X	X	X	X	X	X	X	X	X	X	X	X	X

<sup>1</sup> Prior approval by the FAA Office of Environment and Energy (AEE) is required in order to use non-default profiles for review of FAA federal actions or other FAA regulatory purposes. Further information on requesting approval for use of non-default profiles is provided in the AEDT 3f User Manual, Appendix K.

Function Availability	INM	EDMS	AEDT											
			2a	2b	2c	2d	3b	3c	3d	3e	3f	3g	4a	
Distributed computing execution (not supported for dispersion modeling)			X	X	X	X	X	X	X	X	X	X	X	X
System data protected from user changes; user-defined data creation from system data template	X	X		X	X	X	X	X	X	X	X	X	X	X
Integrated function for updating Study versions	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Only a single study database to manage			X	X	X	X	X	X	X	X	X	X	X	X
Terrain, ambient, and weather references saved	X		X	X	X	X	X	X	X	X	X	X	X	X
Creation and maintenance of studies through the user interface	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Checking for study internal consistency	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Generation of administrative file, including complete study database, log files, and study input report	X		X	X	X	X	X	X	X	X	X	X	X	X
CSV import of tracks and aircraft operations										X	X	X	X	
CSV import of runup operations												X	X	
CSV import of helipad-to-helipad operations and tracks													X	
Conversion of INM and EDMS studies to ASIF format			X	X	X	X	X	X	X	X	X	X	X	X
ASIF import	N/A	N/A	X	X	X	X	X	X	X	X	X	X	X	X
ASIF partial study import	N/A	N/A	X	X	X	X	X	X	X	X	X	X	X	X
ASIF export of aircraft definitions	N/A	N/A	X	X	X	X	X	X	X	X	X	X	X	X
Metric results definitions as a more-flexible replacement for scenarios and cases			X	X	X	X	X	X	X	X	X	X	X	X
Workflow (wizard) feature for defining metric results			X	X	X	X	X	X	X	X	X	X	X	X
Copy-edit of scenarios/metric results definitions	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Workflow (wizard) feature for creating operation			X	X	X	X	X	X	X	X	X	X	X	X
Workflow (wizard) feature for editing operations				X	X	X	X	X	X	X	X	X	X	X
Workflow (wizard) feature for creating multiple operations (bulk create)					X	X	X	X	X	X	X	X	X	X
User-editable annualizations (scaling factors on operation groups/cases)	X		X	X	X	X	X	X	X	X	X	X	X	X
Display of all aircraft equipment available	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Make new airplane from existing airplane	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Creation and editing of aircraft flight profiles	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ASIF import of user-defined spectra									X	X	X	X	X	X
Editing of non-aircraft parameters		X	X	X	X	X	X	X	X	X	X	X	X	X
Creation and editing of equipment groups	X		X	X	X	X	X	X	X	X	X	X	X	X
Editing of group percent distributions	X		X	X	X	X	X	X	X	X	X	X	X	X

Function Availability	INM	EDMS	AEDT											
			2a	2b	2c	2d	3b	3c	3d	3e	3f	3g	4a	
Flights distributed across tracks using group percent <sup>2</sup>	X			X	X	X	X	X	X	X	X	X	X	X
Aircraft noise-power-distance (NPD) table plotting	X		X											
Creation and editing of custom noise metric	X	X		X	X	X	X	X	X	X	X	X	X	X
Creation and editing of grid/receptor set	X	X		X	X	X	X	X	X	X	X	X	X	X
Point/grid receptors	X		X	X	X	X	X	X	X	X	X	X	X	X
Population receptors for noise modeling	X		X											
Dynamic grid support (recursive grid in INM) for dB-based metrics	X			X	X	X	X	X	X	X	X	X	X	X
Dynamic grid support for time-based metrics							X	X	X	X	X	X	X	X
Dynamic grid support for user-defined noise metrics							X	X	X	X	X	X	X	X
Dynamic grid restricted by a boundary							X	X	X	X	X	X	X	X
Option to visualize the creation of dynamic grids on the map								X	X	X	X	X	X	X
Creation and editing of quarter-hourly/daily/monthly operational profiles		X		X	X	X	X	X	X	X	X	X	X	X
Annual average airport weather specification and editing	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Usage of National Climatic Data Center (NCDC) ASOS weather sources		X		X	X	X	X	X	X	X	X	X	X	X
Usage of RUC/RAP, NCAR, and GEOS/MERRA weather			X	X	X	X	X	X	X	X	X	X	X	X
Application of study boundary to limit the area covered by high fidelity weather (RUC/RAP, NCAR, GEOS)			X	X	X	X	X	X	X	X	X	X	X	X
Usage of MERRA-2 and WRF weather						X	X	X	X	X	X	X	X	X
Apply weather at the metric result level						X	X	X	X	X	X	X	X	X
Direct use of US Census data for population exposure	X			X	X	X	X	X	X	X	X	X	X	X
Airport and runway locations for tens of thousands of airports globally	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Creation of user-defined airports and runways	X	X		X	X	X	X	X	X	X	X	X	X	X
Point and polygon airport gates with adjustable emissions dispersion parameters (release height, initial sigma-Y & sigma-Z)		X		X	X	X	X	X	X	X	X	X	X	X
Airport layout editor undo and redo	X			X	X	X	X	X	X	X	X	X	X	X
Airport configuration assignment		X		X	X	X	X	X	X	X	X	X	X	X
Editing of airport capacity parameters		X		X	X	X	X	X	X	X	X	X	X	X
Flight track – display all tracks on map	X		X	X	X	X	X	X	X	X	X	X	X	X
Flight track – display & edit selected tracks on map											X	X	X	X

<sup>2</sup> In AEDT, user's access to Aircraft Equipment Group Percent Distribution processing is through direct SQL injection of AIR\_OPERATION table.

Function Availability	INM	EDMS	AEDT											
			2a	2b	2c	2d	3b	3c	3d	3e	3f	3g	4a	
Flight track – disperse point tracks	X			X	X	X	X	X	X	X	X	X	X	X
Flight track – edit dispersed tracks on the map and in dialog							X	X	X	X	X	X	X	X
Flight track – point track creation by point-and-click	X			X	X	X	X	X	X	X	X	X	X	X
Flight track – vector track creation and editing	X						X	X	X	X	X	X	X	X
Taxi network graphical design		X		X	X	X	X	X	X	X	X	X	X	X
Taxiway, taxiway, and airport configuration editing		X		X	X	X	X	X	X	X	X	X	X	X
Taxiway connectivity verification		X		X	X	X	X	X	X	X	X	X	X	X
Taxi time-in-mode emissions modeling		X		X	X	X	X	X	X	X	X	X	X	X
Taxi delay and sequencing of operations		X		X	X	X	X	X	X	X	X	X	X	X
Modeling of emissions sources other than aircraft main engines, including ground support equipment (GSE) and auxiliary power units (APU) <sup>3</sup>		X		X	X	X	X	X	X	X	X	X	X	X
Non-aircraft emission factor deterioration based on equipment age		X		X	X	X	X	X	X	X	X	X	X	X
Modeling of scheduled aircraft operations	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Modeling of operational profile operations for aircraft and non-aircraft emissions sources		X		X	X	X	X	X	X	X	X	X	X	X
Modeling of operational profile operations for runup sources													X	X
Modeling of touch-and-go operations	X	X		X	X	X	X	X	X	X	X	X	X	X
Modeling of circuit operations	X			X	X	X	X	X	X	X	X	X	X	X
Modeling of helicopter taxi operations				X	X	X	X	X	X	X	X	X	X	X
Noise modeling of runup operations	X			X	X	X	X	X	X	X	X	X	X	X
Revised emissions modeling for Boiler/Heater, Fuel Tank, Sand Salt Pile, and Solvent Degreaser based on the latest EPA approved methodologies										X	X	X	X	X
Map navigation tools (zoom, pan, rotate)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Conversion calculator from X/Y coordinates (relative to the study center at 0/0) to latitude/longitude	X													
Comprehensive geographic feature attribute viewing	X	X		X	X	X	X	X	X	X	X	X	X	X
Graphical rendering of ESRI Shapefile layers	X			X	X	X	X	X	X	X	X	X	X	X
Import of satellite imagery and other GIS map services				X	X	X	X	X	X	X	X	X	X	X
Export GIS layers to shapefiles	X			X	X	X	X	X	X	X	X	X	X	X
Color and symbol legends for flight operations and airport designs	X		X	X	X	X	X	X	X	X	X	X	X	X

<sup>3</sup> See the "AEDT Supplemental Manual: Using MOVES with AEDT" for roadways, parking facilities, and construction operations. Users must use EPA MOVES to generate these sources.

Function Availability	INM	EDMS	AEDT											
			2a	2b	2c	2d	3b	3c	3d	3e	3f	3g	4a	
User-adjustable transparency on map layers				X	X	X	X	X	X	X	X	X	X	X
Last map location saved	X			X	X	X	X	X	X	X	X	X	X	X
Screenshot function for map view image capture				X	X	X	X	X	X	X	X	X	X	X
Option to compute flight performance only			X	X	X	X	X	X	X	X	X	X	X	X
Track angle checking	X		X	X	X	X	X	X	X	X	X	X	X	X
Bank angle modeling	X		X	X	X	X	X	X	X	X	X	X	X	X
Application of study boundary to truncate/extend tracks (legacy NIRS functionality)			X											
Adjustable fuel sulfur content for aircraft and stationary sources emissions modeling purposes		X		X	X	X	X	X	X	X	X	X	X	X
Adjustable sulfur-to-sulfate conversion rate for aircraft and stationary sources emissions modeling at non-US airports		X	X	X	X	X	X	X	X	X	X	X	X	X
Smoke number-to-particulate matter model		FOA 3	FOA 3	FOA 3	FOA 3	FOA 3	FOA 3	FOA 4	FOA 4	FOA 4	FOA 4	FOA 4	FOA 4	FOA 4
Non-volatile particulate matter (nvPM) particle mass and number calculated													X	X
Use of the Mission Emissions Estimation Methodology (MEEM) 5-point interpolation methodology for nvPM calculation													X	X
Usage of 3CD terrain models for noise calculations	X		X	X	X	X	X	X	X	X	X	X	X	X
Usage of USGS DEM terrain models for noise calculations	X		X	X	X	X	X	X	X	X	X	X	X	X
Usage of GridFloat terrain models for noise calculations	X		X	X	X	X	X	X	X	X	X	X	X	X
Usage of GeoTIFF terrain data for noise calculations									X	X	X	X	X	X
Viewing of terrain model on map display	X													
Default terrain values for missing terrain data	X			X	X	X	X	X	X	X	X	X	X	X
Visualization of missing terrain data	X													
Line-of-sight blockage modeling for noise metrics	X			X	X	X	X	X	X	X	X	X	X	X
Noise modeling lateral attenuation adjustment	X		X	X	X	X	X	X	X	X	X	X	X	X
Noise spectral cutoff calculation <sup>4</sup>	X			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SAE ARP 866A atmospheric absorption algorithm	X			X	X	X	X	X	X	X	X	X	X	X
SAE ARP 5534 atmospheric absorption algorithm				X	X	X	X	X	X	X	X	X	X	X
A-weighted noise metrics	X		X	X	X	X	X	X	X	X	X	X	X	X
Tone-corrected noise metrics	X		X	X	X	X	X	X	X	X	X	X	X	X
C-weighted noise metrics	X		X	X	X	X	X	X	X	X	X	X	X	X

<sup>4</sup> In AEDT, this is addressed by the dynamic grid algorithm rather than pre-processing of aircraft source data as in INM.

Function Availability	INM	EDMS	AEDT											
			2a	2b	2c	2d	3b	3c	3d	3e	3f	3g	4a	
Modeling of time-based noise metrics	X			X	X	X	X	X	X	X	X	X	X	X
Noise ambient data screening <sup>5</sup>	X			X	X	X	X	X	X	X	X	X	X	X
Restrict by boundary when running ambient screening	X			X	X	X	X	X	X	X	X	X	X	X
Restrict receptor grid by boundary				X	X	X	X	X	X	X	X	X	X	X
Application of study boundary to limit the area covered by contour grid calculations	X							X	X	X	X	X	X	X
Detailed noise grid computation with attribution to contributing flight operations	X			X	X	X	X	X	X	X	X	X	X	X
Number above noise level for LAMAX, LCMAX, SEL, and CEXP				X	X	X	X	X	X	X	X	X	X	X
Import and export of NMGF formatted noise results	X			X	X	X	X	X	X	X	X	X	X	X
Combine noise results from different receptor sets						X	X	X	X	X	X	X	X	X
Noise table reports	X		X	X	X	X	X	X	X	X	X	X	X	X
Noise contour generation and display	X		X	X	X	X	X	X	X	X	X	X	X	X
Non-closing noise contours	X							X	X	X	X	X	X	X
NIRS-format noise impact chart and table reports			X	X	X	X	X	X	X	X	X	X	X	X
Noise ranking and flight track reassignment of aircraft operations for change analysis			X											
Comprehensive input parameter report	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Flight.txt report that contains NPD and flight segment data	X								X	X	X	X	X	X
Aircraft flight profile and performance graphs	X		X	X	X	X	X	X	X	X	X	X	X	X
X-Y plotting of flown aircraft trajectory	X		X	X	X	X	X	X	X	X	X	X	X	X
Emissions inventory reporting (segment to modal)		X	X	X	X	X	X	X	X	X	X	X	X	X
Emissions and fuel consumption table reports by source type, with adjustable units		X	X	X	X	X	X	X	X	X	X	X	X	X
VALE emissions reporting		X	X	X	X	X	X	X	X	X	X	X	X	X
AERMOD & AERMET version	N/A	12345	N/A	14134	16216	16216	18081	19191	19191	21112	23132	23132	24142	
Emissions dispersion table reports		X	X	X	X	X	X	X	X	X	X	X	X	X
Expansion of speciated organic gas emissions		X	X	X	X	X	X	X	X	X	X	X	X	X
Particulate matter speciation for aircraft engines <sup>6</sup>		X	X	X	X	X	X	X	X	X	X	X	X	X
Calculate & presentation of pollutant concentrations (based on AERMOD)		X	X	X	X	X	X	X	X	X	X	X	X	X
Pollutant concentration contours					X	X	X	X	X	X	X	X	X	X
Specify averaging period, source groups, and rankings before AERMOD run		X			X	X	X	X	X	X	X	X	X	X

<sup>5</sup> Requires review and authorization by the FAA Office of Energy and Environment (AEE).

<sup>6</sup> Requires review and authorization by the FAA Office of Energy and Environment (AEE).

Function Availability	INM	EDMS	AEDT											
			2a	2b	2c	2d	3b	3c	3d	3e	3f	3g	4a	
Emissions dispersion of aircraft operations on curved flight tracks			X	X	X	X	X	X	X	X	X	X	X	X
Emissions dispersion of aircraft engine startup emissions		X		X	X	X	X	X	X	X	X	X	X	X
Emissions dispersion of emissions sources other than aircraft main engines, including APUS, GSE, and other airport sources		X		X	X	X	X	X	X	X	X	X	X	X
Emissions dispersion of runup operations											X	X	X	X
Running multiple pollutants at once in dispersion modeling										X	X	X	X	X
Background emissions concentrations					X	X	X	X	X	X	X	X	X	X
PM2.5 dispersion modeling without NAAQS restriction												X	X	X
SO <sub>2</sub> dispersion modeling using Tier 1 method								X	X	X	X	X	X	X
NO <sub>2</sub> dispersion modeling using Tier 1, Tier 2 and Tier 3 methods								X	X	X	X	X	X	X
NO <sub>2</sub> dispersion modeling using AERMOD Aircraft Thrust Specific In-Stack NO <sub>2</sub> /NO <sub>x</sub> Ratios											X	X	X	X
AERMOD, Urban Population option											X	X	X	X
AERMOD, ALPHA and BETA options for conversion of NO <sub>x</sub> to NO <sub>2</sub>											X	X	X	X
AERMOD, ALPHA option for Low Wind Parameters											X	X	X	X
AERMOD, ALPHA option for Plume Rise											X	X	X	X
AERMOD, ALPHA option for Area Plume Meander											X	X	X	X
Aircraft source characterization as volume sources for dispersion modeling								X	X	X	X	X	X	X
Support for 1-minute and 5-minute ASOS wind data for dispersion modeling								X	X	X	X	X	X	X
Low wind speed support (ADJ_U* option in AERMET)								X	X	X	X	X	X	X
Interface to EPA's AERSURFACE utility										X	X	X	X	X

## B. Input Data Tables

**Table B.1: Fleet Mix Arrival/ Departure Split**

ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	Arrivals	Departures
A124	74720B	Boeing 747-200/JT9D-7Q	1.0067	1.0067
A19N	A319-131	Airbus A319-131/V2522-A5	165.0958	165.0958
A20N	A320-270N	A320-271N/PW1127G-JM with mod160734 engines	6824.2952	6815.2351
A21N	A321-232	Airbus A321-232/IAE V2530-A5	22341.2870	22350.3471
A306	A300-622R	Airbus A300-622R/PW4158	285.8976	287.9110
A318	A319-131	Airbus A319-131/V2522-A5	34.2272	31.2071
A319	A319-131	Airbus A319-131/V2522-A5	662.3966	662.3966
A320	A320-232	Airbus A320-232/V2527-A5	20210.1418	20219.2019
A321	A321-232	Airbus A321-232/IAE V2530-A5	18365.9009	18372.9477
A332	A330-343	Airbus A330-343/RR Trent 772B	4191.8226	4203.9028
A333	A330-343	Airbus A330-343/RR Trent 772B	29174.6423	29043.7737
A339	A330-343	Airbus A330-343/RR Trent 772B	1153.6572	1152.6505
A343	A340-211	Airbus A340-211/CFM56-5C2	3.0200	4.0267
A346	A340-642	Airbus A340-642/RR Trent 556	315.0914	314.0847
A359	A350-941	A350-941\RR trent XWB-84	11963.4053	11944.2784
A35K	A350-941	A350-941\RR trent XWB-84	4229.0698	4226.0498
A388	A380-841	Airbus A380-841/RR Trent 970	856.6861	854.6728
AJ27	EMB190	ERJ190-100	1.0067	1.0067
ASTR	IA1125	IAI-1125 ASTRA/TFE731-3A	6.0401	6.0401
AT76	DHC830	Bombardier de Havilland DASH 8-300/PW123	1.0067	
B38M	7378MAX	7378MAX\CFMLEap1B27	918.0937	888.8999
B39M	7378MAX	7378MAX\CFMLEap1B27	5.0334	4.0267
B733	737300	Boeing 737-300/CFM56-3B-1	178.1827	177.1760
B734	737400	Boeing 737-400/CFM56-3C-1	526.4945	527.5012
B737	737300	Boeing 737-300/CFM56-3B-1	94.6281	95.6348
B738	737800	Boeing 737-800/CFM56-7B26	13787.5126	13727.1117
B739	737800	Boeing 737-800/CFM56-7B26	252.6771	251.6704
B744	747400	Boeing 747-400/PW4056	10100.0375	10160.4384
B748	7478	Boeing 747-8F / Genx-2B67	7005.4980	7038.7184
B752	757RR	Boeing 757-200/RB211-535E4	69.4610	73.4878
B762	767CF6	Boeing 767-200/CF6-80A	332.2050	337.2384
B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	2065.7108	2072.7576
B772	777200	Boeing 777-200ER/GE90-90B	596.9622	594.9489
B773	777300	Boeing 777-300/Trent 892	5682.7182	5647.4843
B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	11004.0377	11035.2448
B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	12892.5725	12878.4790
B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	1700.2854	1692.2319
B789	7879	Boeing 787-9/Genx-1B76A/P2	3333.1231	3329.0964
B78X	7879	Boeing 787-9/Genx-1B76A/P2	952.3209	948.2942
C25C	CIT3	Cessna Citation III/TFE731-3-100S	33.2205	31.2071
C25M	CNA525C	Cessna Citation CJ4 525C /FJ44-4A	2.0134	2.0134
C560	CNA55B	Cessna 550 Citation Bravo/PW530A	8.0535	7.0468
C56X	CNA55B	Cessna 550 Citation Bravo/PW530A	3.0200	3.0200
C680	CNA680	Cessna Citation Sovereign 680 / PW306C	1.0067	1.0067
C700	CNA680	Cessna Citation Sovereign 680 / PW306C	1.0067	1.0067
C750	CNA750	Cessna Citation X/Rolls Royce Allison AE3007C	5.0334	5.0334
C919	A320-211	Airbus A320-211/CFM56-5A1	327.1716	336.2317
CL30	CL600	Canadair CL-600/ALF502L	1.0067	1.0067
CL35	CL600	Canadair CL-600/ALF502L	97.6481	97.6481
CL60	CL601	Canadair CL-601/CF34-3A	339.2517	446.9667
CRJ2	CL601	Canadair CL-601/CF34-3A	34.2272	34.2272
DH8D	DHC830	Bombardier de Havilland DASH 8-300/PW123	4.0267	4.0267
E135	EMB145	Embraer 145 ER / Allison AE3007	3.0200	3.0200
E190	EMB190	ERJ190-100	2.0134	2.0134
E35L	EMB145	Embraer 145 ER / Allison AE3007	15.1002	16.1069
E550	CL600	Canadair CL-600/ALF502L	2.0134	1.0067

ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	Arrivals	Departures
E55P	CL600	Canadair CL-600/ALF502L	1.0067	2.0134
F2TH	CL600	Canadair CL-600/ALF502L	3.0200	4.0267
F900	FAL900EX	FAL900EX\TFE731-60	4.0267	4.0267
FA50	FAL900EX	FAL900EX\TFE731-60	1.0067	1.0067
FA6X	CRJ9-ER	Bombardier CL-600-2D15/CL-600-2D24/CF34-8C5	2.0134	2.0134
FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	81.5412	79.5279
FA8X	GIV	Gulfstream GIV-SP/TAY 611-8	15.1002	16.1069
G150	IA1125	IAI-1125 ASTRA/TFE731-3A	4.0267	3.0200
G280	CL600	Canadair CL-600/ALF502L	39.2606	42.2806
GA5C	GV	Gulfstream GV/BR 710	9.0601	10.0668
GA6C	GV	Gulfstream GV/BR 710	55.3675	54.3608
GA7C	G650ER	G650ER\BR-700-725A1-12	64.4276	65.4343
GA8C	G650ER	G650ER\BR-700-725A1-12	1.0067	1.0067
GALX	CL600	Canadair CL-600/ALF502L	8.0535	8.0535
GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	123.8218	126.8419
GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	363.4121	363.4121
GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	536.5613	538.5747
GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	276.8375	272.8107
GLF5	GV	Gulfstream GV/BR 710	447.9734	446.9667
GLF6	G650ER	G650ER\BR-700-725A1-12	786.2184	780.1783
H25B	LEAR35	Learjet 36/TFE731-2	18.1203	17.1136
HDJT	CNA510	Cessna Mustang Model 510 / PW615F	1.0067	1.0067
LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A	11.0735	11.0735
MD11	MD11PW	McDonnell Douglas MD-11/PW 4460	9.0601	9.0601
PC24	CNA55B	Cessna 550 Citation Bravo/PW530A	4.0267	4.0267
TBM7	CNA208	Cessna 208 / PT6A-114	1.0067	1.0067
			196,030	195,994
			392,024	

**Table B.2: Departure Stage Length Profile Number Distribution**

Stage Number	Trip Length (NMI)
1	0-500
2	500-1,000
3	1,000-1,500
4	1,500-2,500
5	2,500-3,500
6	3,500-4,500
7	4,500-5,500
8	5,500-6,500
9	6,500-7,500

Source: Adapted from AEDT 4a Technical Manual

**Table B.3: Arrivals Distribution Over Operational Period**

ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	Operational Period						
			Day 1 (0700 – 0759)	Day 2 (0800 – 2159)	Night 1 (2200 – 2259)	Night 2 (2300 – 2359)	Night 3 (0000 – 0059)	Night 4 (0100 – 0459)	Night 5 (0500 – 0659)
A124	74720B	Boeing 747-200/JT9D-7Q	1.0067						
A19N	A319-131	Airbus A319-131/V2522-A5		165.0958					
A20N	A320-270N	A320-271N/PW1127G-JM with mod160734 engines	27.1804	5105.8896	414.7529	443.9466	314.0847	475.1538	43.2873
A21N	A321-232	Airbus A321-232/IAE V2530-A5	289.9243	16562.9340	1431.5014	1419.4212	1208.0180	809.3721	620.1159
A306	A300-622R	Airbus A300-622R/PW4158		12.0802	14.0935	16.1069	136.9087	106.7083	
A318	A319-131	Airbus A319-131/V2522-A5	2.0134	31.2071			1.0067		
A319	A319-131	Airbus A319-131/V2522-A5		638.2362	4.0267	8.0535	2.0134	8.0535	2.0134
A320	A320-232	Airbus A320-232/V2527-A5	22.1470	15818.9962	852.6594	1231.1717	814.4055	961.3810	509.3809
A321	A321-232	Airbus A321-232/IAE V2530-A5	9.0601	14259.6463	1107.3499	1289.5593	808.3654	726.8242	165.0958
A332	A330-343	Airbus A330-343/RR Trent 772B	122.8152	1829.1406	148.9889	158.0490	315.0914	1184.8644	432.8731
A333	A330-343	Airbus A330-343/RR Trent 772B	182.2094	20784.9571	2134.1652	1181.8443	1519.0827	1966.0494	1406.3343
A339	A330-343	Airbus A330-343/RR Trent 772B	149.9956	994.6015	1.0067			1.0067	7.0468
A343	A340-211	Airbus A340-211/CFM56-5C2				3.0200			
A346	A340-642	Airbus A340-642/RR Trent 556	1.0067	313.0780				1.0067	
A359	A350-941	A350-941/RR trent XWB-84	436.8999	8065.5338	629.1761	229.5234	86.5746	355.3586	2160.3389
A35K	A350-941	A350-941/RR trent XWB-84	173.1493	2547.9114	59.3942	22.1470	5.0334	842.5926	578.8420
A388	A380-841	Airbus A380-841/RR Trent 970		670.4500	159.0557	21.1403	3.0200	3.0200	
AJ27	EMB190	ERJ190-100		1.0067					
ASTR	IA1125	IAI-1125 ASTRA/TFE731-3A		6.0401					
AT76	DHC830	Bombardier de Havilland DASH 8-300/PW123		1.0067					
B38M	7378MAX	7378MAX/CFMLEap1B27		845.6126	2.0134	25.1670	13.0869	30.2005	2.0134
B39M	7378MAX	7378MAX/CFMLEap1B27		2.0134					3.0200
B733	737300	Boeing 737-300/CFM56-3B-1	12.0802	164.0891					2.0134
B734	737400	Boeing 737-400/CFM56-3C-1	116.7751	92.6147	6.0401	82.5479	5.0334	25.1670	198.3163
B737	737300	Boeing 737-300/CFM56-3B-1	1.0067	93.6214					
B738	737800	Boeing 737-800/CFM56-7B26	21.1403	10480.5632	418.7796	788.2318	457.0335	1095.2697	526.4945
B739	737800	Boeing 737-800/CFM56-7B26		252.6771					
B744	747400	Boeing 747-400/PW4056	568.7752	6344.1081	186.2361	191.2695	215.4299	1648.9446	945.2741
B748	7478	Boeing 747-8F / Genx-2B67	296.9711	4074.0408	256.7038	310.0580	396.6326	1122.4501	548.6415
B752	757RR	Boeing 757-200/RB211-535E4		58.3875	1.0067	1.0067		6.0401	3.0200
B762	767CF6	Boeing 767-200/CF6-80A	8.0535	55.3675		46.3074	129.8619	88.5880	4.0267
B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	81.5412	723.8041	132.8820	110.7350	439.9199	465.0869	111.7417
B772	777200	Boeing 777-200ER/GE90-90B	13.0869	465.0869	44.2940	14.0935	1.0067	4.0267	55.3675
B773	777300	Boeing 777-300/Trent 892	6.0401	4513.9607	674.4767	293.9511	61.4076	81.5412	51.3408

ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	Operational Period						
			Day 1 (0700 – 0759)	Day 2 (0800 – 2159)	Night 1 (2200 – 2259)	Night 2 (2300 – 2359)	Night 3 (0000 – 0059)	Night 4 (0100 – 0459)	Night 5 (0500 – 0659)
B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	240.5969	5200.5177	469.1137	472.1337	773.1315	3272.7222	575.8219
B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	761.0514	8727.9303	225.4967	127.8486	26.1737	568.7752	2455.2967
B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	12.0802	907.0202	446.9667	149.9956	14.0935	12.0802	158.0490
B789	7879	Boeing 787-9/GENx-1B76A/P2	65.4343	2785.4883	94.6281	17.1136	11.0735	66.4410	292.9444
B78X	7879	Boeing 787-9/GENx-1B76A/P2		854.6728	85.5679	7.0468	2.0134	3.0200	
C25C	CIT3	Cessna Citation III/TFE731-3-100S		33.2205					
C25M	CNA525C	Cessna Citation CJ4 525C /FJ44-4A		1.0067	1.0067				
C560	CNA55B	Cessna 550 Citation Bravo/PW530A		7.0468					1.0067
C56X	CNA55B	Cessna 550 Citation Bravo/PW530A		3.0200					
C680	CNA680	Cessna Citation Sovereign 680 / PW306C		1.0067					
C700	CNA680	Cessna Citation Sovereign 680 / PW306C		1.0067					
C750	CNA750	Cessna Citation X/Rolls Royce Allison AE3007C		5.0334					
C919	A320-211	Airbus A320-211/CFM56-5A1		327.1716					
CL30	CL600	Canadair CL-600/ALF502L		1.0067					
CL35	CL600	Canadair CL-600/ALF502L	1.0067	82.5479	5.0334	4.0267		4.0267	1.0067
CL60	CL601	Canadair CL-601/CF34-3A	7.0468	302.0045	9.0601	4.0267	6.0401	10.0668	1.0067
CRJ2	CL601	Canadair CL-601/CF34-3A		30.2005	1.0067	1.0067	1.0067	1.0067	
DH8D	DHC830	Bombardier de Havilland DASH 8-300/PW123		1.0067	1.0067			1.0067	1.0067
E135	EMB145	Embraer 145 ER / Allison AE3007		2.0134					1.0067
E190	EMB190	ERJ190-100		2.0134					
E35L	EMB145	Embraer 145 ER / Allison AE3007	2.0134	11.0735			1.0067	1.0067	
E550	CL600	Canadair CL-600/ALF502L		2.0134					
E55P	CL600	Canadair CL-600/ALF502L		1.0067					
F2TH	CL600	Canadair CL-600/ALF502L		3.0200					
F900	FAL900EX	FAL900EX\TFE731-60		3.0200				1.0067	
FA50	FAL900EX	FAL900EX\TFE731-60						1.0067	
FA6X	CRJ9-ER	Bombardier CL-600-2D15/CL-600-2D24/CF34-8C5		1.0067	1.0067				
FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	1.0067	63.4209	4.0267	2.0134	3.0200	5.0334	3.0200
FA8X	GIV	Gulfstream GIV-SP/TAY 611-8		12.0802	1.0067			2.0134	
G150	IA1125	IAI-1125 ASTRA/TFE731-3A		2.0134	1.0067	1.0067			
G280	CL600	Canadair CL-600/ALF502L	1.0067	29.1938	2.0134	2.0134		5.0334	
GA5C	GV	Gulfstream GV/BR 710		8.0535				1.0067	
GA6C	GV	Gulfstream GV/BR 710	1.0067	46.3074	2.0134	2.0134		1.0067	3.0200
GA7C	G650ER	G650ER\BR-700-725A1-12	1.0067	49.3274	3.0200		5.0334	5.0334	1.0067
GA8C	G650ER	G650ER\BR-700-725A1-12		1.0067					

ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	Operational Period							
			Day 1 (0700 – 0759)	Day 2 (0800 – 2159)	Night 1 (2200 – 2259)	Night 2 (2300 – 2359)	Night 3 (0000 – 0059)	Night 4 (0100 – 0459)	Night 5 (0500 – 0659)	
GALX	CL600	Canadair CL-600/ALF502L		7.0468	1.0067					
GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	1.0067	110.7350	4.0267	5.0334	1.0067	2.0134		
GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	4.0267	284.8909	17.1136	18.1203	9.0601	19.1270	11.0735	
GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	9.0601	430.8598	19.1270	21.1403	22.1470	24.1604	10.0668	
GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	4.0267	240.5969	13.0869	4.0267	7.0468	6.0401	2.0134	
GLF5	GV	Gulfstream GV/BR 710	4.0267	383.5457	31.2071	6.0401	8.0535	13.0869	2.0134	
GLF6	G650ER	G650ER\BR-700-725A1-12	14.0935	647.2963	31.2071	22.1470	16.1069	32.2138	23.1537	
H25B	LEAR35	Learjet 36/TFE731-2		17.1136				1.0067		
HDJT	CNA510	Cessna Mustang Model 510 / PW615F		1.0067						
LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A		10.0668	1.0067					
MD11	MD11PW	McDonnell Douglas MD-11/PW 4460		4.0267		1.0067		4.0267		
PC24	CNA55B	Cessna 550 Citation Bravo/PW530A	1.0067	3.0200						
TBM7	CNA208	Cessna 208 / PT6A-114		1.0067						
			3,673	137,625	10,149	8,752	7,839	16,072	11,919	
			196,030							

**Table B.4: Departures Distribution Over Operational Period**

ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	Operational Period						
			Day 1 (0700 – 0759)	Day 2 (0800 – 2159)	Night 1 (2200 – 2259)	Night 2 (2300 – 2359)	Night 3 (0000 – 0059)	Night 4 (0100 – 0459)	Night 5 (0500 – 0659)
A124	74720B	Boeing 747-200/JT9D-7Q		1.0067					
A19N	A319-131	Airbus A319-131/V2522-A5		163.0824	2.0134				
A20N	A320-270N	A320-271N/PW1127G-JM with mod160734 engines	307.0379	5987.7428	141.9421	25.1670	8.0535	341.2651	4.0267
A21N	A321-232	Airbus A321-232/IAE V2530-A5	1622.7709	19365.5359	562.7351	266.7707	85.5679	440.9266	6.0401
A306	A300-622R	Airbus A300-622R/PW4158	1.0067	27.1804	3.0200	2.0134		243.6170	11.0735
A318	A319-131	Airbus A319-131/V2522-A5	1.0067	30.2005					
A319	A319-131	Airbus A319-131/V2522-A5		642.2629		2.0134	3.0200	5.0334	10.0668
A320	A320-232	Airbus A320-232/V2527-A5	641.2562	17303.8517	586.8954	245.6303	159.0557	1226.1383	56.3742
A321	A321-232	Airbus A321-232/IAE V2530-A5	638.2362	15250.2211	557.7017	490.2540	222.4767	1035.8755	178.1827
A332	A330-343	Airbus A330-343/RR Trent 772B	173.1493	1984.1696	168.1158	99.6615	208.3831	1157.6840	412.7395
A333	A330-343	Airbus A330-343/RR Trent 772B	235.5635	22710.7392	777.1583	870.7797	280.8642	3789.1499	379.5190
A339	A330-343	Airbus A330-343/RR Trent 772B		1109.3632	27.1804	9.0601	4.0267	2.0134	1.0067
A343	A340-211	Airbus A340-211/CFM56-5C2					2.0134	2.0134	
A346	A340-642	Airbus A340-642/RR Trent 556	1.0067	2.0134	1.0067	155.0290	145.9688	9.0601	
A359	A350-941	A350-941/RR trent XWB-84	16.1069	8450.0862	426.8330	256.7038	1415.3945	1363.0470	16.1069
A35K	A350-941	A350-941/RR trent XWB-84	3.0200	2812.6687	56.3742	494.2807	260.7306	581.8620	17.1136
A388	A380-841	Airbus A380-841/RR Trent 970		355.3586	61.4076	4.0267	158.0490	274.8241	1.0067
AJ27	EMB190	ERJ190-100		1.0067					
ASTR	IA1125	IAI-1125 ASTRA/TFE731-3A		6.0401					
B38M	7378MAX	7378MAX\CFMLEap1B27		842.5926	2.0134		1.0067	43.2873	
B39M	7378MAX	7378MAX\CFMLEap1B27		2.0134	2.0134				
B733	737300	Boeing 737-300/CFM56-3B-1	2.0134	175.1626					
B734	737400	Boeing 737-400/CFM56-3C-1	101.6749	270.7974		21.1403	16.1069	113.7550	4.0267
B737	737300	Boeing 737-300/CFM56-3B-1	1.0067	90.6014	3.0200	1.0067			
B738	737800	Boeing 737-800/CFM56-7B26	70.4677	11870.7906	319.1181	82.5479	228.5167	1083.1895	72.4811
B739	737800	Boeing 737-800/CFM56-7B26		250.6637		1.0067			
B744	747400	Boeing 747-400/PW4056	1251.3054	8141.0349	168.1158	91.6080	87.5813	338.2451	82.5479
B748	7478	Boeing 747-8F / Genx-2B67	270.7974	4166.6556	221.4700	253.6838	268.7840	1412.3744	444.9533
B752	757RR	Boeing 757-200/RB211-535E4		59.3942	2.0134	4.0267	2.0134	4.0267	2.0134
B762	767CF6	Boeing 767-200/CF6-80A	3.0200	61.4076	2.0134		1.0067	225.4967	44.2940
B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	86.5746	835.5458	73.4878	33.2205	17.1136	698.6371	328.1782
B772	777200	Boeing 777-200ER/GE90-90B	6.0401	412.7395	2.0134	104.6949	40.2673	28.1871	1.0067
B773	777300	Boeing 777-300/Trent 892	21.1403	5245.8183	194.2896	147.9822	6.0401	31.2071	1.0067
B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	881.8532	4760.5978	713.7373	379.5190	255.6972	2212.6864	1831.1540
B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	161.0691	8102.7810	703.6705	951.3142	1336.8733	1600.6239	22.1470
B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	32.2138	1378.1472	57.3809	15.1002	135.9020	67.4477	6.0401

ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	Operational Period						
			Day 1 (0700 – 0759)	Day 2 (0800 – 2159)	Night 1 (2200 – 2259)	Night 2 (2300 – 2359)	Night 3 (0000 – 0059)	Night 4 (0100 – 0459)	Night 5 (0500 – 0659)
B789	7879	Boeing 787-9/GENx-1B76A/P2	39.2606	2809.6486	139.9288	243.6170	33.2205	56.3742	7.0468
B78X	7879	Boeing 787-9/GENx-1B76A/P2		862.7262	21.1403	7.0468	10.0668	47.3140	
C25C	CIT3	Cessna Citation III/TFE731-3-100S		31.2071					
C25M	CNA525C	Cessna Citation CJ4 525C /FJ44-4A		1.0067		1.0067			
C560	CNA55B	Cessna 550 Citation Bravo/PW530A		6.0401					1.0067
C56X	CNA55B	Cessna 550 Citation Bravo/PW530A		3.0200					
C680	CNA680	Cessna Citation Sovereign 680 / PW306C		1.0067					
C700	CNA680	Cessna Citation Sovereign 680 / PW306C		1.0067					
C750	CNA750	Cessna Citation X/Rolls Royce Allison AE3007C		5.0334					
C919	A320-211	Airbus A320-211/CFM56-5A1		336.2317					
CL30	CL600	Canadair CL-600/ALF502L						1.0067	
CL35	CL600	Canadair CL-600/ALF502L	2.0134	89.5947		1.0067	1.0067		4.0267
CL60	CL601	Canadair CL-601/CF34-3A	8.0535	413.7462	5.0334	4.0267		6.0401	10.0668
CRJ2	CL601	Canadair CL-601/CF34-3A		31.2071	1.0067		1.0067	1.0067	
DH8D	DHC830	Bombardier de Havilland DASH 8-300/PW123		1.0067		1.0067			2.0134
E135	EMB145	Embraer 145 ER / Allison AE3007		2.0134		1.0067			
E190	EMB190	ERJ190-100		2.0134					
E35L	EMB145	Embraer 145 ER / Allison AE3007		14.0935	1.0067			1.0067	
E550	CL600	Canadair CL-600/ALF502L		1.0067					
E55P	CL600	Canadair CL-600/ALF502L		2.0134					
F2TH	CL600	Canadair CL-600/ALF502L		4.0267					
F900	FAL900EX	FAL900EX\TFE731-60		4.0267					
FA50	FAL900EX	FAL900EX\TFE731-60							1.0067
FA6X	CRJ9-ER	Bombardier CL-600-2D15/CL-600-2D24/CF34-8C5		2.0134					
FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	4.0267	68.4544	1.0067	1.0067	1.0067	4.0267	
FA8X	GIV	Gulfstream GIV-SP/TAY 611-8		15.1002					1.0067
G150	IA1125	IAI-1125 ASTRA/TFE731-3A		3.0200					
G280	CL600	Canadair CL-600/ALF502L	1.0067	39.2606		1.0067	1.0067		
GA5C	GV	Gulfstream GV/BR 710		10.0668					
GA6C	GV	Gulfstream GV/BR 710	2.0134	49.3274	1.0067			2.0134	
GA7C	G650ER	G650ER\BR-700-725A1-12	1.0067	59.3942	1.0067			2.0134	2.0134
GA8C	G650ER	G650ER\BR-700-725A1-12		1.0067					
GALX	CL600	Canadair CL-600/ALF502L		8.0535					
GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	4.0267	115.7684	3.0200	1.0067		2.0134	1.0067
GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	11.0735	307.0379	6.0401	7.0468	15.1002	7.0468	10.0668

ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	Operational Period						
			Day 1 (0700 – 0759)	Day 2 (0800 – 2159)	Night 1 (2200 – 2259)	Night 2 (2300 – 2359)	Night 3 (0000 – 0059)	Night 4 (0100 – 0459)	Night 5 (0500 – 0659)
GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	9.0601	483.2072	6.0401	8.0535	6.0401	10.0668	16.1069
GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	5.0334	245.6303	6.0401		1.0067	5.0334	10.0668
GLF5	GV	Gulfstream GV/BR 710	11.0735	387.5725	14.0935	9.0601	5.0334	13.0869	7.0468
GLF6	G650ER	G650ER\BR-700-725A1-12	25.1670	657.3632	11.0735	15.1002	26.1737	30.2005	15.1002
H25B	LEAR35	Learjet 36/TFE731-2		16.1069					1.0067
HDJT	CNA510	Cessna Mustang Model 510 / PW615F		1.0067					
LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A		10.0668			1.0067		
MD11	MD11PW	McDonnell Douglas MD-11/PW 4460		5.0334			1.0067	1.0067	2.0134
PC24	CNA55B	Cessna 550 Citation Bravo/PW530A		4.0267					
TBM7	CNA208	Cessna 208 / PT6A-114		1.0067					
			6,652	149,980	6,054	5,309	5,453	18,521	4,024
			195,994						

**Table B.5: Arrivals Runway Utilization by Fleet Mix and Operational Period**

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Day 1	A124	74720B	Boeing 747-200/JT9D-7Q	1.0067					
Day 1	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines	11.0735		10.0668		6.0401	
Day 1	A21N	A321-232	Airbus A321-232/IAE V2530-A5	158.0490	31.2071	9.0601	2.0134	74.4944	15.1002
Day 1	A318	A319-131	Airbus A319-131/V2522-A5	1.0067	1.0067				
Day 1	A320	A320-232	Airbus A320-232/V2527-A5	12.0802	3.0200	2.0134	1.0067	4.0267	
Day 1	A321	A321-232	Airbus A321-232/IAE V2530-A5	5.0334	1.0067		1.0067	2.0134	
Day 1	A332	A330-343	Airbus A330-343/RR Trent 772B	58.3875	11.0735	9.0601	2.0134	37.2472	5.0334
Day 1	A333	A330-343	Airbus A330-343/RR Trent 772B	89.5947	20.1336	20.1336	1.0067	45.3007	6.0401
Day 1	A339	A330-343	Airbus A330-343/RR Trent 772B	83.5546	19.1270	9.0601	2.0134	32.2138	4.0267
Day 1	A346	A340-642	Airbus A340-642/RR Trent 556	1.0067					
Day 1	A359	A350-941	A350-941\RR trent XWB-84	200.3297	54.3608	42.2806	12.0802	105.7016	22.1470
Day 1	A35K	A350-941	A350-941\RR trent XWB-84	91.6080	7.0468	17.1136	2.0134	48.3207	7.0468
Day 1	B733	737300	Boeing 737-300/CFM56-3B-1	5.0334	1.0067	1.0067		5.0334	
Day 1	B734	737400	Boeing 737-400/CFM56-3C-1	50.3341	15.1002	8.0535	3.0200	35.2339	5.0334
Day 1	B737	737300	Boeing 737-300/CFM56-3B-1					1.0067	
Day 1	B738	737800	Boeing 737-800/CFM56-7B26	9.0601	1.0067	6.0401		4.0267	1.0067
Day 1	B744	747400	Boeing 747-400/PW4056	321.1315	33.2205	39.2606	7.0468	146.9755	21.1403
Day 1	B748	7478	Boeing 747-8F / Genx-2B67	130.8686	23.1537	33.2205	2.0134	93.6214	14.0935
Day 1	B762	767CF6	Boeing 767-200/CF6-80A	2.0134				6.0401	
Day 1	B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	51.3408	4.0267	10.0668	1.0067	14.0935	1.0067
Day 1	B772	777200	Boeing 777-200ER/GE90-90B	7.0468		1.0067		5.0334	
Day 1	B773	777300	Boeing 777-300/Trent 892	1.0067	1.0067	2.0134		2.0134	
Day 1	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	118.7884	32.2138	19.1270	3.0200	57.3809	10.0668
Day 1	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	410.7261	56.3742	64.4276	9.0601	189.2562	31.2071
Day 1	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	6.0401		1.0067		4.0267	1.0067
Day 1	B789	7879	Boeing 787-9/GENx-1B76A/P2	34.2272	3.0200	9.0601		19.1270	
Day 1	CL35	CL600	Canadair CL-600/ALF502L	1.0067					
Day 1	CL60	CL601	Canadair CL-601/CF34-3A	2.0134	2.0134			2.0134	1.0067
Day 1	E35L	EMB145	Embraer 145 ER / Allison AE3007	2.0134					
Day 1	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8					1.0067	
Day 1	G280	CL600	Canadair CL-600/ALF502L					1.0067	

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Day 1	GA6C	GV	Gulfstream GV/BR 710	1.0067					
Day 1	GA7C	G650ER	G650ER\BR-700-725A1-12					1.0067	
Day 1	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business					1.0067	
Day 1	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	2.0134	1.0067			1.0067	
Day 1	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	5.0334	1.0067			2.0134	1.0067
Day 1	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	1.0067		1.0067		2.0134	
Day 1	GLF5	GV	Gulfstream GV/BR 710	3.0200		1.0067			
Day 1	GLF6	G650ER	G650ER\BR-700-725A1-12	8.0535	2.0134			3.0200	1.0067
Day 1	PC24	CNA55B	Cessna 550 Citation Bravo/PW530A	1.0067					
Day 2	A19N	A319-131	Airbus A319-131/V2522-A5	76.5078	76.5078	2.0134	1.0067	4.0267	5.0334
Day 2	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines	3193.1944	1668.0716	107.7149	13.0869	32.2138	91.6080
Day 2	A21N	A321-232	Airbus A321-232/IAE V2530-A5	10414.1222	5286.0856	392.6059	52.3474	134.8953	282.8776
Day 2	A306	A300-622R	Airbus A300-622R/PW4158	8.0535	1.0067			3.0200	
Day 2	A318	A319-131	Airbus A319-131/V2522-A5	16.1069	8.0535	1.0067		1.0067	5.0334
Day 2	A319	A319-131	Airbus A319-131/V2522-A5	346.2985	239.5902	13.0869	2.0134	15.1002	22.1470
Day 2	A320	A320-232	Airbus A320-232/V2527-A5	10333.5877	4623.6890	314.0847	35.2339	73.4878	438.9132
Day 2	A321	A321-232	Airbus A321-232/IAE V2530-A5	9092.3491	4308.5977	323.1448	34.2272	166.1025	335.2250
Day 2	A332	A330-343	Airbus A330-343/RR Trent 772B	750.9845	345.2918	34.2272	6.0401	417.7729	274.8241
Day 2	A333	A330-343	Airbus A330-343/RR Trent 772B	12432.5190	6062.2372	494.2807	48.3207	940.2407	807.3587
Day 2	A339	A330-343	Airbus A330-343/RR Trent 772B	705.6839	222.4767	25.1670	1.0067	25.1670	15.1002
Day 2	A343	A340-211	Airbus A340-211/CFM56-5C2	3.0200					
Day 2	A346	A340-642	Airbus A340-642/RR Trent 556	115.7684	102.6815	4.0267	2.0134	27.1804	61.4076
Day 2	A359	A350-941	A350-941\RR trent XWB-84	4853.2125	2360.6686	165.0958	18.1203	388.5791	279.8575
Day 2	A35K	A350-941	A350-941\RR trent XWB-84	1498.9491	653.3364	49.3274	6.0401	154.0223	186.2361
Day 2	A388	A380-841	Airbus A380-841/RR Trent 970	474.1471	171.1359	16.1069	3.0200	3.0200	3.0200
Day 2	AJ27	EMB190	ERJ190-100	1.0067					
Day 2	ASTR	IA1125	IAI-1125 ASTRA/TFE731-3A					4.0267	2.0134
Day 2	AT76	DHC830	Bombardier de Havilland DASH 8-300/PW123		1.0067				
Day 2	B38M	7378MAX	7378MAX\CFMLEap1B27	465.0869	305.0246	23.1537	4.0267	21.1403	27.1804
Day 2	B39M	7378MAX	7378MAX\CFMLEap1B27	1.0067	1.0067				
Day 2	B733	737300	Boeing 737-300/CFM56-3B-1	10.0668	6.0401		1.0067	118.7884	28.1871

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Day 2	B734	737400	Boeing 737-400/CFM56-3C-1	23.1537	7.0468		1.0067	52.3474	9.0601
Day 2	B737	737300	Boeing 737-300/CFM56-3B-1	57.3809	17.1136	3.0200	1.0067	5.0334	10.0668
Day 2	B738	737800	Boeing 737-800/CFM56-7B26	6353.1682	3355.2701	232.5435	27.1804	235.5635	276.8375
Day 2	B739	737800	Boeing 737-800/CFM56-7B26	123.8218	107.7149	7.0468	3.0200	3.0200	8.0535
Day 2	B744	747400	Boeing 747-400/PW4056	1886.5215	983.5280	141.9421	18.1203	2080.8111	1233.1851
Day 2	B748	7478	Boeing 747-8F / Genx-2B67	1470.7620	608.0357	89.5947	11.0735	1144.5971	749.9779
Day 2	B752	757RR	Boeing 757-200/RB211-535E4	23.1537	4.0267	1.0067		24.1604	6.0401
Day 2	B762	767CF6	Boeing 767-200/CF6-80A	28.1871	6.0401	1.0067		15.1002	5.0334
Day 2	B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	322.1381	113.7550	21.1403	2.0134	147.9822	116.7751
Day 2	B772	777200	Boeing 777-200ER/GE90-90B	279.8575	156.0357	10.0668		11.0735	8.0535
Day 2	B773	777300	Boeing 777-300/Trent 892	2981.7912	1194.9312	83.5546	7.0468	133.8887	112.7484
Day 2	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	2238.8601	938.2273	114.7617	12.0802	1088.2229	808.3654
Day 2	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	5410.9141	2624.4192	210.3965	15.1002	262.7439	204.3564
Day 2	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	515.4210	333.2116	14.0935	2.0134	18.1203	24.1604
Day 2	B789	7879	Boeing 787-9/Genx-1B76A/P2	1566.3967	1017.7552	65.4343	10.0668	69.4610	56.3742
Day 2	B78X	7879	Boeing 787-9/Genx-1B76A/P2	620.1159	164.0891	18.1203	1.0067	35.2339	16.1069
Day 2	C25C	CIT3	Cessna Citation III/TFE731-3-100S	12.0802	4.0267	2.0134		11.0735	4.0267
Day 2	C25M	CNA525C	Cessna Citation CJ4 525C /FJ44-4A	1.0067					
Day 2	C560	CNA55B	Cessna 550 Citation Bravo/PW530A					6.0401	1.0067
Day 2	C56X	CNA55B	Cessna 550 Citation Bravo/PW530A	1.0067					2.0134
Day 2	C680	CNA680	Cessna Citation Sovereign 680 / PW306C	1.0067					
Day 2	C700	CNA680	Cessna Citation Sovereign 680 / PW306C					1.0067	
Day 2	C750	CNA750	Cessna Citation X/Rolls Royce Allison AE3007C	3.0200				1.0067	1.0067
Day 2	C919	A320-211	Airbus A320-211/CFM56-5A1	223.4833	90.6014		1.0067	11.0735	1.0067
Day 2	CL30	CL600	Canadair CL-600/ALF502L			1.0067			
Day 2	CL35	CL600	Canadair CL-600/ALF502L	42.2806	10.0668	5.0334		19.1270	6.0401
Day 2	CL60	CL601	Canadair CL-601/CF34-3A	104.6949	38.2539	7.0468		93.6214	58.3875
Day 2	CRJ2	CL601	Canadair CL-601/CF34-3A	15.1002	1.0067			6.0401	8.0535
Day 2	DH8D	DHC830	Bombardier de Havilland DASH 8-300/PW123		1.0067				
Day 2	E135	EMB145	Embraer 145 ER / Allison AE3007					1.0067	1.0067
Day 2	E190	EMB190	ERJ190-100	1.0067				1.0067	
Day 2	E35L	EMB145	Embraer 145 ER / Allison AE3007	6.0401				3.0200	2.0134

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Day 2	E550	CL600	Canadair CL-600/ALF502L	2.0134					
Day 2	E55P	CL600	Canadair CL-600/ALF502L					1.0067	
Day 2	F2TH	CL600	Canadair CL-600/ALF502L					2.0134	1.0067
Day 2	F900	FAL900EX	FAL900EX\TFE731-60	1.0067				1.0067	1.0067
Day 2	FA6X	CRJ9-ER	Bombardier CL-600-2D15/CL-600-2D24/CF34-8C5	1.0067					
Day 2	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	33.2205	14.0935			10.0668	6.0401
Day 2	FA8X	GIV	Gulfstream GIV-SP/TAY 611-8	4.0267	3.0200			3.0200	2.0134
Day 2	G150	IA1125	IAI-1125 ASTRA/TFE731-3A					1.0067	1.0067
Day 2	G280	CL600	Canadair CL-600/ALF502L	12.0802	6.0401	1.0067		5.0334	5.0334
Day 2	GA5C	GV	Gulfstream GV/BR 710	3.0200	3.0200			1.0067	1.0067
Day 2	GA6C	GV	Gulfstream GV/BR 710	21.1403	7.0468	2.0134		7.0468	9.0601
Day 2	GA7C	G650ER	G650ER\BR-700-725A1-12	19.1270	10.0668	1.0067		9.0601	10.0668
Day 2	GA8C	G650ER	G650ER\BR-700-725A1-12					1.0067	
Day 2	GALX	CL600	Canadair CL-600/ALF502L					6.0401	1.0067
Day 2	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	47.3140	25.1670	4.0267		19.1270	15.1002
Day 2	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	121.8085	54.3608	8.0535		63.4209	37.2472
Day 2	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	198.3163	78.5212	9.0601	2.0134	85.5679	57.3809
Day 2	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	99.6615	47.3140	3.0200		54.3608	36.2405
Day 2	GLF5	GV	Gulfstream GV/BR 710	155.0290	79.5279	11.0735	1.0067	77.5145	59.3942
Day 2	GLF6	G650ER	G650ER\BR-700-725A1-12	281.8709	115.7684	13.0869	1.0067	132.8820	102.6815
Day 2	H25B	LEAR35	Learjet 36/TFE731-2	6.0401	2.0134	1.0067		7.0468	1.0067
Day 2	HDJT	CNA510	Cessna Mustang Model 510 / PW615F					1.0067	
Day 2	LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A	1.0067				6.0401	3.0200
Day 2	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460					3.0200	1.0067
Day 2	PC24	CNA55B	Cessna 550 Citation Bravo/PW530A					1.0067	2.0134
Day 2	TBM7	CNA208	Cessna 208 / PT6A-114					1.0067	
Night 1	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines	322.1381	73.4878	14.0935		4.0267	1.0067
Night 1	A21N	A321-232	Airbus A321-232/IAE V2530-A5	1139.5637	241.6036	34.2272		13.0869	3.0200
Night 1	A306	A300-622R	Airbus A300-622R/PW4158	14.0935					

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Night 1	A319	A319-131	Airbus A319-131/V2522-A5	4.0267					
Night 1	A320	A320-232	Airbus A320-232/V2527-A5	706.6906	122.8152	17.1136		6.0401	
Night 1	A321	A321-232	Airbus A321-232/IAE V2530-A5	948.2942	132.8820	15.1002	1.0067	9.0601	1.0067
Night 1	A332	A330-343	Airbus A330-343/RR Trent 772B	118.7884	20.1336	6.0401		4.0267	
Night 1	A333	A330-343	Airbus A330-343/RR Trent 772B	1754.6462	297.9778	63.4209		16.1069	2.0134
Night 1	A339	A330-343	Airbus A330-343/RR Trent 772B	1.0067					
Night 1	A359	A350-941	A350-941\RR trent XWB-84	531.5279	84.5613	12.0802		1.0067	
Night 1	A35K	A350-941	A350-941\RR trent XWB-84	41.2740	17.1136	1.0067			
Night 1	A388	A380-841	Airbus A380-841/RR Trent 970	115.7684	39.2606	1.0067		2.0134	1.0067
Night 1	B38M	7378MAX	7378MAX\CFMLEap1B27	2.0134					
Night 1	B734	737400	Boeing 737-400/CFM56-3C-1	5.0334	1.0067				
Night 1	B738	737800	Boeing 737-800/CFM56-7B26	325.1582	76.5078	11.0735		5.0334	1.0067
Night 1	B744	747400	Boeing 747-400/PW4056	151.0023	25.1670	3.0200		6.0401	1.0067
Night 1	B748	7478	Boeing 747-8F / Genx-2B67	197.3096	43.2873	6.0401		9.0601	1.0067
Night 1	B752	757RR	Boeing 757-200/RB211-535E4	1.0067					
Night 1	B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	122.8152	8.0535			2.0134	
Night 1	B772	777200	Boeing 777-200ER/GE90-90B	43.2873	1.0067				
Night 1	B773	777300	Boeing 777-300/Trent 892	558.7083	99.6615	16.1069			
Night 1	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	376.4990	61.4076	13.0869	1.0067	14.0935	3.0200
Night 1	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	178.1827	40.2673	5.0334		1.0067	1.0067
Night 1	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	391.5992	41.2740	12.0802		2.0134	
Night 1	B789	7879	Boeing 787-9/GEEnx-1B76A/P2	77.5145	15.1002	2.0134			
Night 1	B78X	7879	Boeing 787-9/GEEnx-1B76A/P2	67.4477	16.1069	2.0134			
Night 1	C25M	CNA525C	Cessna Citation CJ4 525C /FJ44-4A						1.0067
Night 1	CL35	CL600	Canadair CL-600/ALF502L	3.0200	2.0134				
Night 1	CL60	CL601	Canadair CL-601/CF34-3A	8.0535	1.0067				
Night 1	CRJ2	CL601	Canadair CL-601/CF34-3A	1.0067					
Night 1	DH8D	DHC830	Bombardier de Havilland DASH 8-300/PW123					1.0067	
Night 1	FA6X	CRJ9-ER	Bombardier CL-600-2D15/CL-600-2D24/CF34-8C5	1.0067					
Night 1	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	3.0200	1.0067				
Night 1	FA8X	GIV	Gulfstream GIV-SP/TAY 611-8	1.0067					

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Night 1	G150	IA1125	IAI-1125 ASTRA/TFE731-3A		1.0067				
Night 1	G280	CL600	Canadair CL-600/ALF502L	2.0134					
Night 1	GA6C	GV	Gulfstream GV/BR 710	2.0134					
Night 1	GA7C	G650ER	G650ER\BR-700-725A1-12	2.0134	1.0067				
Night 1	GALX	CL600	Canadair CL-600/ALF502L	1.0067					
Night 1	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	3.0200	1.0067				
Night 1	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	15.1002	1.0067	1.0067			
Night 1	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	15.1002	3.0200	1.0067			
Night 1	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	12.0802	1.0067				
Night 1	GLF5	GV	Gulfstream GV/BR 710	23.1537	4.0267			3.0200	1.0067
Night 1	GLF6	G650ER	G650ER\BR-700-725A1-12	25.1670	5.0334			1.0067	
Night 1	LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A					1.0067	
Night 2	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines	271.8041	44.2940	120.8018	6.0401	1.0067	
Night 2	A21N	A321-232	Airbus A321-232/IAE V2530-A5	816.4189	157.0423	416.7662	17.1136	12.0802	
Night 2	A306	A300-622R	Airbus A300-622R/PW4158	14.0935	2.0134				
Night 2	A319	A319-131	Airbus A319-131/V2522-A5	1.0067	3.0200	4.0267			
Night 2	A320	A320-232	Airbus A320-232/V2527-A5	680.5168	132.8820	396.6326	15.1002	5.0334	1.0067
Night 2	A321	A321-232	Airbus A321-232/IAE V2530-A5	844.6059	126.8419	303.0112	7.0468	8.0535	
Night 2	A332	A330-343	Airbus A330-343/RR Trent 772B	80.5345	23.1537	40.2673	2.0134	12.0802	
Night 2	A333	A330-343	Airbus A330-343/RR Trent 772B	690.5836	164.0891	295.9644	12.0802	19.1270	
Night 2	A359	A350-941	A350-941\RR trent XWB-84	177.1760	13.0869	37.2472	1.0067	1.0067	
Night 2	A35K	A350-941	A350-941\RR trent XWB-84	11.0735	3.0200	5.0334	2.0134	1.0067	
Night 2	A388	A380-841	Airbus A380-841/RR Trent 970	16.1069	2.0134	3.0200			
Night 2	B38M	7378MAX	7378MAX\CFMLEap1B27	16.1069	3.0200	6.0401			
Night 2	B734	737400	Boeing 737-400/CFM56-3C-1	24.1604	19.1270	32.2138	2.0134	5.0334	
Night 2	B738	737800	Boeing 737-800/CFM56-7B26	483.2072	88.5880	204.3564	10.0668	2.0134	
Night 2	B744	747400	Boeing 747-400/PW4056	124.8285	12.0802	43.2873	4.0267	7.0468	
Night 2	B748	7478	Boeing 747-8F / Genx-2B67	157.0423	45.3007	89.5947	3.0200	15.1002	
Night 2	B752	757RR	Boeing 757-200/RB211-535E4	1.0067					
Night 2	B762	767CF6	Boeing 767-200/CF6-80A	21.1403	4.0267	15.1002		6.0401	

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Night 2	B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	64.4276	11.0735	26.1737	1.0067	8.0535	
Night 2	B772	777200	Boeing 777-200ER/GE90-90B	14.0935					
Night 2	B773	777300	Boeing 777-300/Trent 892	208.3831	19.1270	57.3809	5.0334	4.0267	
Night 2	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	303.0112	44.2940	92.6147	1.0067	30.2005	1.0067
Night 2	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	107.7149	6.0401	13.0869		1.0067	
Night 2	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	94.6281	20.1336	31.2071	2.0134	2.0134	
Night 2	B789	7879	Boeing 787-9/GENx-1B76A/P2	12.0802	3.0200	1.0067	1.0067		
Night 2	B78X	7879	Boeing 787-9/GENx-1B76A/P2	4.0267		2.0134		1.0067	
Night 2	CL35	CL600	Canadair CL-600/ALF502L	2.0134		1.0067		1.0067	
Night 2	CL60	CL601	Canadair CL-601/CF34-3A	2.0134		2.0134			
Night 2	CRJ2	CL601	Canadair CL-601/CF34-3A					1.0067	
Night 2	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	1.0067		1.0067			
Night 2	G150	IA1125	IAI-1125 ASTRA/TFE731-3A	1.0067					
Night 2	G280	CL600	Canadair CL-600/ALF502L	2.0134					
Night 2	GA6C	GV	Gulfstream GV/BR 710			2.0134			
Night 2	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	2.0134	2.0134	1.0067			
Night 2	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	14.0935		3.0200	1.0067		
Night 2	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	10.0668	3.0200	6.0401	1.0067	1.0067	
Night 2	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	2.0134				2.0134	
Night 2	GLF5	GV	Gulfstream GV/BR 710	5.0334		1.0067			
Night 2	GLF6	G650ER	G650ER\BR-700-725A1-12	12.0802	2.0134	6.0401	1.0067	1.0067	
Night 2	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460	1.0067					
Night 3	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines	229.5234	21.1403	61.4076	1.0067	1.0067	
Night 3	A21N	A321-232	Airbus A321-232/IAE V2530-A5	724.8108	154.0223	316.0981	11.0735	2.0134	
Night 3	A306	A300-622R	Airbus A300-622R/PW4158	125.8352	9.0601	1.0067		1.0067	
Night 3	A318	A319-131	Airbus A319-131/V2522-A5	1.0067					
Night 3	A319	A319-131	Airbus A319-131/V2522-A5	2.0134					
Night 3	A320	A320-232	Airbus A320-232/V2527-A5	479.1805	83.5546	242.6103	6.0401	3.0200	
Night 3	A321	A321-232	Airbus A321-232/IAE V2530-A5	566.7618	81.5412	122.8152	8.0535	28.1871	1.0067
Night 3	A332	A330-343	Airbus A330-343/RR Trent 772B	126.8419	47.3140	84.5613	6.0401	49.3274	1.0067

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Night 3	A333	A330-343	Airbus A330-343/RR Trent 772B	832.5258	146.9755	427.8397	24.1604	86.5746	1.0067
Night 3	A359	A350-941	A350-941\RR trent XWB-84	73.4878	2.0134	10.0668	1.0067		
Night 3	A35K	A350-941	A350-941\RR trent XWB-84	4.0267		1.0067			
Night 3	A388	A380-841	Airbus A380-841/RR Trent 970	2.0134		1.0067			
Night 3	B38M	7378MAX	7378MAX\CFMLEap1B27	12.0802	1.0067				
Night 3	B734	737400	Boeing 737-400/CFM56-3C-1	2.0134		3.0200			
Night 3	B738	737800	Boeing 737-800/CFM56-7B26	328.1782	37.2472	84.5613	5.0334	2.0134	
Night 3	B744	747400	Boeing 747-400/PW4056	139.9288	18.1203	53.3541		4.0267	
Night 3	B748	7478	Boeing 747-8F / Genx-2B67	242.6103	38.2539	90.6014	5.0334	20.1336	
Night 3	B762	767CF6	Boeing 767-200/CF6-80A	64.4276	14.0935	37.2472	3.0200	11.0735	
Night 3	B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	188.2495	52.3474	190.2628	6.0401	3.0200	
Night 3	B772	777200	Boeing 777-200ER/GE90-90B	1.0067					
Night 3	B773	777300	Boeing 777-300/Trent 892	7.0468	10.0668	39.2606	5.0334		
Night 3	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	442.9399	82.5479	201.3363	6.0401	40.2673	
Night 3	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	10.0668	4.0267	11.0735		1.0067	
Night 3	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	8.0535	3.0200	3.0200			
Night 3	B789	7879	Boeing 787-9/GENx-1B76A/P2	9.0601	1.0067	1.0067			
Night 3	B78X	7879	Boeing 787-9/GENx-1B76A/P2	1.0067		1.0067			
Night 3	CL60	CL601	Canadair CL-601/CF34-3A	3.0200		2.0134		1.0067	
Night 3	CRJ2	CL601	Canadair CL-601/CF34-3A	1.0067					
Night 3	E35L	EMB145	Embraer 145 ER / Allison AE3007				1.0067		
Night 3	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	2.0134		1.0067			
Night 3	GA7C	G650ER	G650ER\BR-700-725A1-12	3.0200	1.0067	1.0067			
Night 3	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	1.0067					
Night 3	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	4.0267	2.0134	3.0200			
Night 3	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	10.0668	3.0200	7.0468	1.0067	1.0067	
Night 3	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	3.0200		4.0267			
Night 3	GLF5	GV	Gulfstream GV/BR 710	6.0401		1.0067	1.0067		
Night 3	GLF6	G650ER	G650ER\BR-700-725A1-12	9.0601	2.0134	5.0334			

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Night 4	A20N	A320-270N	A320-271N/PW1127G-JM with mod160734 engines	151.0023	28.1871	223.4833	38.2539	34.2272	
Night 4	A21N	A321-232	Airbus A321-232/IAE V2530-A5	282.8776	57.3809	377.5056	69.4610	22.1470	
Night 4	A306	A300-622R	Airbus A300-622R/PW4158	71.4744		21.1403		14.0935	
Night 4	A319	A319-131	Airbus A319-131/V2522-A5	1.0067		5.0334	1.0067	1.0067	
Night 4	A320	A320-232	Airbus A320-232/V2527-A5	325.1582	68.4544	433.8798	67.4477	66.4410	
Night 4	A321	A321-232	Airbus A321-232/IAE V2530-A5	207.3764	56.3742	290.9310	78.5212	93.6214	
Night 4	A332	A330-343	Airbus A330-343/RR Trent 772B	347.3052	65.4343	503.3409	64.4276	199.3230	5.0334
Night 4	A333	A330-343	Airbus A330-343/RR Trent 772B	745.9511	99.6615	800.3120	94.6281	221.4700	4.0267
Night 4	A339	A330-343	Airbus A330-343/RR Trent 772B					1.0067	
Night 4	A346	A340-642	Airbus A340-642/RR Trent 556	1.0067					
Night 4	A359	A350-941	A350-941/RR trent XWB-84	101.6749	9.0601	182.2094	34.2272	28.1871	
Night 4	A35K	A350-941	A350-941/RR trent XWB-84	222.4767	30.2005	435.8932	61.4076	92.6147	
Night 4	A388	A380-841	Airbus A380-841/RR Trent 970	3.0200					
Night 4	B38M	7378MAX	7378MAX/CFMLEap1B27	19.1270	1.0067	6.0401		4.0267	
Night 4	B734	737400	Boeing 737-400/CFM56-3C-1	9.0601		12.0802	3.0200	1.0067	
Night 4	B738	737800	Boeing 737-800/CFM56-7B26	413.7462	35.2339	478.1738	63.4209	104.6949	
Night 4	B744	747400	Boeing 747-400/PW4056	448.9800	64.4276	835.5458	98.6548	200.3297	1.0067
Night 4	B748	7478	Boeing 747-8F / Genx-2B67	327.1716	42.2806	537.5680	80.5345	134.8953	
Night 4	B752	757RR	Boeing 757-200/RB211-535E4	4.0267		1.0067		1.0067	
Night 4	B762	767CF6	Boeing 767-200/CF6-80A	57.3809	4.0267	14.0935		12.0802	1.0067
Night 4	B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	124.8285	14.0935	228.5167	20.1336	77.5145	
Night 4	B772	777200	Boeing 777-200ER/GE90-90B	2.0134				2.0134	
Night 4	B773	777300	Boeing 777-300/Trent 892	24.1604	8.0535	41.2740	7.0468	1.0067	
Night 4	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	933.1939	131.8753	1668.0716	230.5301	308.0446	1.0067
Night 4	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	151.0023	37.2472	288.9176	73.4878	18.1203	
Night 4	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	1.0067	2.0134	5.0334	3.0200	1.0067	
Night 4	B789	7879	Boeing 787-9/GENx-1B76A/P2	15.1002	3.0200	42.2806	5.0334	1.0067	
Night 4	B78X	7879	Boeing 787-9/GENx-1B76A/P2			3.0200			
Night 4	CL35	CL600	Canadair CL-600/ALF502L			4.0267			
Night 4	CL60	CL601	Canadair CL-601/CF34-3A	4.0267	1.0067	3.0200		2.0134	
Night 4	CRJ2	CL601	Canadair CL-601/CF34-3A			1.0067			
Night 4	DH8D	DHC830	Bombardier de Havilland DASH 8-300/PW123			1.0067			

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Night 4	E35L	EMB145	Embraer 145 ER / Allison AE3007	1.0067					
Night 4	F900	FAL900EX	FAL900EX\TFE731-60					1.0067	
Night 4	FA50	FAL900EX	FAL900EX\TFE731-60			1.0067			
Night 4	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8		1.0067	3.0200		1.0067	
Night 4	FA8X	GIV	Gulfstream GIV-SP/TAY 611-8			1.0067	1.0067		
Night 4	G280	CL600	Canadair CL-600/ALF502L	1.0067		3.0200		1.0067	
Night 4	GA5C	GV	Gulfstream GV/BR 710			1.0067			
Night 4	GA6C	GV	Gulfstream GV/BR 710			1.0067			
Night 4	GA7C	G650ER	G650ER\BR-700-725A1-12		1.0067	3.0200		1.0067	
Night 4	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	1.0067				1.0067	
Night 4	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	1.0067	3.0200	13.0869		2.0134	
Night 4	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	12.0802		9.0601	1.0067	2.0134	
Night 4	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	2.0134		3.0200		1.0067	
Night 4	GLF5	GV	Gulfstream GV/BR 710	6.0401		5.0334	2.0134		
Night 4	GLF6	G650ER	G650ER\BR-700-725A1-12	8.0535	2.0134	17.1136	1.0067	4.0267	
Night 4	H25B	LEAR35	Learjet 36/TFE731-2	1.0067					
Night 4	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460	2.0134		1.0067		1.0067	
Night 5	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines	17.1136		20.1336	1.0067	5.0334	
Night 5	A21N	A321-232	Airbus A321-232/IAE V2530-A5	184.2228	19.1270	305.0246	49.3274	62.4143	
Night 5	A319	A319-131	Airbus A319-131/V2522-A5	1.0067		1.0067			
Night 5	A320	A320-232	Airbus A320-232/V2527-A5	176.1693	13.0869	216.4366	42.2806	60.4009	1.0067
Night 5	A321	A321-232	Airbus A321-232/IAE V2530-A5	48.3207	6.0401	74.4944	19.1270	15.1002	2.0134
Night 5	A332	A330-343	Airbus A330-343/RR Trent 772B	123.8218	14.0935	228.5167	33.2205	33.2205	
Night 5	A333	A330-343	Airbus A330-343/RR Trent 772B	399.6526	58.3875	702.6638	127.8486	112.7484	5.0334
Night 5	A339	A330-343	Airbus A330-343/RR Trent 772B	4.0267		3.0200			
Night 5	A359	A350-941	A350-941\RR trent XWB-84	612.0625	60.4009	1078.1561	170.1292	234.5568	5.0334
Night 5	A35K	A350-941	A350-941\RR trent XWB-84	171.1359	19.1270	285.8976	57.3809	43.2873	2.0134
Night 5	B38M	7378MAX	7378MAX\CFMLEap1B27	2.0134					
Night 5	B39M	7378MAX	7378MAX\CFMLEap1B27	2.0134		1.0067			
Night 5	B733	737300	Boeing 737-300/CFM56-3B-1			1.0067		1.0067	

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Night 5	B734	737400	Boeing 737-400/CFM56-3C-1	72.4811	12.0802	71.4744	19.1270	23.1537	
Night 5	B738	737800	Boeing 737-800/CFM56-7B26	133.8887	14.0935	273.8174	51.3408	53.3541	
Night 5	B744	747400	Boeing 747-400/PW4056	272.8107	25.1670	464.0803	75.5011	104.6949	3.0200
Night 5	B748	7478	Boeing 747-8F / Genx-2B67	165.0958	23.1537	266.7707	41.2740	50.3341	2.0134
Night 5	B752	757RR	Boeing 757-200/RB211-535E4	1.0067		2.0134			
Night 5	B762	767CF6	Boeing 767-200/CF6-80A	1.0067		1.0067		2.0134	
Night 5	B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	31.2071	4.0267	63.4209	7.0468	6.0401	
Night 5	B772	777200	Boeing 777-200ER/GE90-90B	17.1136		29.1938		9.0601	
Night 5	B773	777300	Boeing 777-300/Trent 892	16.1069	1.0067	31.2071		3.0200	
Night 5	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	165.0958	18.1203	265.7640	49.3274	77.5145	
Night 5	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	712.7306	77.5145	1220.0982	165.0958	274.8241	5.0334
Night 5	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	47.3140	4.0267	78.5212	7.0468	20.1336	1.0067
Night 5	B789	7879	Boeing 787-9/GENx-1B76A/P2	89.5947	9.0601	129.8619	26.1737	38.2539	
Night 5	C560	CNA55B	Cessna 550 Citation Bravo/PW530A	1.0067					
Night 5	CL35	CL600	Canadair CL-600/ALF502L			1.0067			
Night 5	CL60	CL601	Canadair CL-601/CF34-3A	1.0067					
Night 5	DH8D	DHC830	Bombardier de Havilland DASH 8-300/PW123			1.0067			
Night 5	E135	EMB145	Embraer 145 ER / Allison AE3007			1.0067			
Night 5	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	1.0067		2.0134			
Night 5	GA6C	GV	Gulfstream GV/BR 710			2.0134		1.0067	
Night 5	GA7C	G650ER	G650ER\BR-700-725A1-12	1.0067					
Night 5	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	2.0134	1.0067	7.0468		1.0067	
Night 5	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	4.0267	1.0067	5.0334			
Night 5	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	1.0067		1.0067			
Night 5	GLF5	GV	Gulfstream GV/BR 710	1.0067		1.0067			
Night 5	GLF6	G650ER	G650ER\BR-700-725A1-12	6.0401	1.0067	10.0668	3.0200	3.0200	
				108,788	43,386	21,219	2,623	12,858	7,155
				196,030					

# Day 1: 0700 – 0759; Day 2: 0800 – 2159; Night 1: 2200 – 2259; Night 2: 2300 – 2359; Night 3: 0000 – 0059; Night 4: 0100 – 0459; Night 5: 0500 – 0659.

**Table B.6: Departures Runway Utilization by Fleet Mix and Operational Period**

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Day 1	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines			131.8753	48.3207	91.6080	35.2339
Day 1	A21N	A321-232	Airbus A321-232/IAE V2530-A5			611.0558	163.0824	771.1182	77.5145
Day 1	A306	A300-622R	Airbus A300-622R/PW4158					1.0067	
Day 1	A318	A319-131	Airbus A319-131/V2522-A5					1.0067	
Day 1	A320	A320-232	Airbus A320-232/V2527-A5			236.5702	90.6014	290.9310	23.1537
Day 1	A321	A321-232	Airbus A321-232/IAE V2530-A5	1.0067		242.6103	60.4009	310.0580	24.1604
Day 1	A332	A330-343	Airbus A330-343/RR Trent 772B			55.3675	13.0869	88.5880	16.1069
Day 1	A333	A330-343	Airbus A330-343/RR Trent 772B	1.0067		88.5880	12.0802	120.8018	13.0869
Day 1	A346	A340-642	Airbus A340-642/RR Trent 556					1.0067	
Day 1	A359	A350-941	A350-941\RR trent XWB-84			4.0267	1.0067	11.0735	
Day 1	A35K	A350-941	A350-941\RR trent XWB-84			1.0067		2.0134	
Day 1	B733	737300	Boeing 737-300/CFM56-3B-1					2.0134	
Day 1	B734	737400	Boeing 737-400/CFM56-3C-1			19.1270	6.0401	61.4076	15.1002
Day 1	B737	737300	Boeing 737-300/CFM56-3B-1					1.0067	
Day 1	B738	737800	Boeing 737-800/CFM56-7B26			28.1871	14.0935	22.1470	6.0401
Day 1	B744	747400	Boeing 747-400/PW4056	1.0067		342.2718	100.6682	728.8376	78.5212
Day 1	B748	7478	Boeing 747-8F / Genx-2B67	3.0200		79.5279	22.1470	149.9956	16.1069
Day 1	B762	767CF6	Boeing 767-200/CF6-80A			1.0067		2.0134	
Day 1	B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211			31.2071	11.0735	40.2673	4.0267
Day 1	B772	777200	Boeing 777-200ER/GE90-90B				1.0067	5.0334	
Day 1	B773	777300	Boeing 777-300/Trent 892			6.0401	1.0067	14.0935	
Day 1	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	8.0535		239.5902	89.5947	500.3208	44.2940
Day 1	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS			78.5212	15.1002	44.2940	23.1537
Day 1	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert			10.0668		22.1470	
Day 1	B789	7879	Boeing 787-9/GENx-1B76A/P2			3.0200	1.0067	34.2272	1.0067
Day 1	CL35	CL600	Canadair CL-600/ALF502L					2.0134	
Day 1	CL60	CL601	Canadair CL-601/CF34-3A			2.0134	1.0067	5.0334	
Day 1	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8			3.0200		1.0067	
Day 1	G280	CL600	Canadair CL-600/ALF502L					1.0067	
Day 1	GA6C	GV	Gulfstream GV/BR 710					2.0134	
Day 1	GA7C	G650ER	G650ER\BR-700-725A1-12					1.0067	
Day 1	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business			2.0134		2.0134	

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Day 1	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express			3.0200	1.0067	7.0468	
Day 1	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business			2.0134		7.0468	
Day 1	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8			2.0134		1.0067	2.0134
Day 1	GLF5	GV	Gulfstream GV/BR 710					11.0735	
Day 1	GLF6	G650ER	G650ER\BR-700-725A1-12			7.0468	2.0134	14.0935	2.0134
Day 2	A124	74720B	Boeing 747-200/JT9D-7Q					1.0067	
Day 2	A19N	A319-131	Airbus A319-131/V2522-A5			7.0468	4.0267	99.6615	52.3474
Day 2	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines			1589.5504	668.4366	2510.6642	1219.0915
Day 2	A21N	A321-232	Airbus A321-232/IAE V2530-A5			5291.1190	2834.8157	7763.5293	3476.0719
Day 2	A306	A300-622R	Airbus A300-622R/PW4158					26.1737	1.0067
Day 2	A318	A319-131	Airbus A319-131/V2522-A5			5.0334	3.0200	12.0802	10.0668
Day 2	A319	A319-131	Airbus A319-131/V2522-A5			66.4410	28.1871	332.2050	215.4299
Day 2	A320	A320-232	Airbus A320-232/V2527-A5			3450.9049	2164.3657	8554.7811	3133.8001
Day 2	A321	A321-232	Airbus A321-232/IAE V2530-A5			3899.8849	2115.0383	6419.6092	2815.6887
Day 2	A332	A330-343	Airbus A330-343/RR Trent 772B			179.1893	143.9555	1211.0381	449.9867
Day 2	A333	A330-343	Airbus A330-343/RR Trent 772B			5930.3619	2703.9470	9573.5430	4502.8872
Day 2	A339	A330-343	Airbus A330-343/RR Trent 772B			41.2740	214.4232	779.1716	74.4944
Day 2	A346	A340-642	Airbus A340-642/RR Trent 556			1.0067		1.0067	
Day 2	A359	A350-941	A350-941\RR trent XWB-84			1273.4524	1328.8198	4652.8828	1194.9312
Day 2	A35K	A350-941	A350-941\RR trent XWB-84			886.8866	352.3386	1118.4234	455.0201
Day 2	A388	A380-841	Airbus A380-841/RR Trent 970			4.0267	7.0468	281.8709	62.4143
Day 2	AJ27	EMB190	ERJ190-100			1.0067			
Day 2	ASTR	IA1125	IAI-1125 ASTRA/TFE731-3A				3.0200	3.0200	
Day 2	B38M	7378MAX	7378MAX\CFMLEap1B27			184.2228	135.9020	269.7907	252.6771
Day 2	B39M	7378MAX	7378MAX\CFMLEap1B27					2.0134	
Day 2	B733	737300	Boeing 737-300/CFM56-3B-1			46.3074	6.0401	77.5145	45.3007
Day 2	B734	737400	Boeing 737-400/CFM56-3C-1			57.3809	21.1403	148.9889	43.2873
Day 2	B737	737300	Boeing 737-300/CFM56-3B-1			8.0535	8.0535	57.3809	17.1136
Day 2	B738	737800	Boeing 737-800/CFM56-7B26			2861.9961	1256.3388	5079.7159	2672.7399
Day 2	B739	737800	Boeing 737-800/CFM56-7B26				67.4477	134.8953	48.3207
Day 2	B744	747400	Boeing 747-400/PW4056			306.0312	1042.9222	5286.0856	1505.9958
Day 2	B748	7478	Boeing 747-8F / Genx-2B67			306.0312	577.8353	2529.7911	752.9979
Day 2	B752	757RR	Boeing 757-200/RB211-535E4				2.0134	51.3408	6.0401
Day 2	B762	767CF6	Boeing 767-200/CF6-80A			3.0200	8.0535	42.2806	8.0535

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Day 2	B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211			25.1670	74.4944	580.8553	155.0290
Day 2	B772	777200	Boeing 777-200ER/GE90-90B			165.0958	140.9354	95.6348	11.0735
Day 2	B773	777300	Boeing 777-300/Trent 892			2010.3434	958.3610	1623.7776	653.3364
Day 2	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS			314.0847	418.7796	3028.0986	999.6349
Day 2	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS			1943.9024	1014.7352	3685.4617	1458.6818
Day 2	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert			371.4655	230.5301	549.6482	226.5034
Day 2	B789	7879	Boeing 787-9/GENx-1B76A/P2			668.4366	515.4210	1221.1049	404.6860
Day 2	B78X	7879	Boeing 787-9/GENx-1B76A/P2			249.6571	139.9288	421.7996	51.3408
Day 2	C25C	CIT3	Cessna Citation III/TFE731-3-100S			8.0535	8.0535	13.0869	2.0134
Day 2	C25M	CNA525C	Cessna Citation CJ4 525C /FJ44-4A					1.0067	
Day 2	C560	CNA55B	Cessna 550 Citation Bravo/PW530A			3.0200	1.0067	1.0067	1.0067
Day 2	C56X	CNA55B	Cessna 550 Citation Bravo/PW530A					1.0067	2.0134
Day 2	C680	CNA680	Cessna Citation Sovereign 680 / PW306C						1.0067
Day 2	C700	CNA680	Cessna Citation Sovereign 680 / PW306C					1.0067	
Day 2	C750	CNA750	Cessna Citation X/Rolls Royce Allison AE3007C				1.0067	4.0267	
Day 2	C919	A320-211	Airbus A320-211/CFM56-5A1			187.2428	7.0468	10.0668	131.8753
Day 2	CL35	CL600	Canadair CL-600/ALF502L			21.1403	14.0935	45.3007	9.0601
Day 2	CL60	CL601	Canadair CL-601/CF34-3A			54.3608	37.2472	223.4833	98.6548
Day 2	CRJ2	CL601	Canadair CL-601/CF34-3A			5.0334	6.0401	10.0668	10.0668
Day 2	DH8D	DHC830	Bombardier de Havilland DASH 8-300/PW123					1.0067	
Day 2	E135	EMB145	Embraer 145 ER / Allison AE3007				1.0067	1.0067	
Day 2	E190	EMB190	ERJ190-100					2.0134	
Day 2	E35L	EMB145	Embraer 145 ER / Allison AE3007			1.0067	1.0067	7.0468	5.0334
Day 2	E550	CL600	Canadair CL-600/ALF502L					1.0067	
Day 2	E55P	CL600	Canadair CL-600/ALF502L					2.0134	
Day 2	F2TH	CL600	Canadair CL-600/ALF502L			1.0067		3.0200	
Day 2	F900	FAL900EX	FAL900EX\TFE731-60					2.0134	2.0134
Day 2	FA6X	CRJ9-ER	Bombardier CL-600-2D15/CL-600-2D24/CF34-8C5					2.0134	
Day 2	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8			21.1403	3.0200	22.1470	22.1470
Day 2	FA8X	GIV	Gulfstream GIV-SP/TAY 611-8			1.0067		9.0601	5.0334
Day 2	G150	IA1125	IAI-1125 ASTRA/TFE731-3A				2.0134	1.0067	
Day 2	G280	CL600	Canadair CL-600/ALF502L			7.0468	6.0401	15.1002	11.0735
Day 2	GA5C	GV	Gulfstream GV/BR 710			4.0267	2.0134	2.0134	2.0134
Day 2	GA6C	GV	Gulfstream GV/BR 710			10.0668	10.0668	24.1604	5.0334

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Day 2	GA7C	G650ER	G650ER\BR-700-725A1-12			15.1002	12.0802	26.1737	6.0401
Day 2	GA8C	G650ER	G650ER\BR-700-725A1-12					1.0067	
Day 2	GALX	CL600	Canadair CL-600/ALF502L				1.0067	5.0334	2.0134
Day 2	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business			29.1938	25.1670	41.2740	20.1336
Day 2	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express			80.5345	49.3274	120.8018	56.3742
Day 2	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business			110.7350	79.5279	207.3764	85.5679
Day 2	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8			50.3341	35.2339	106.7083	53.3541
Day 2	GLF5	GV	Gulfstream GV/BR 710			69.4610	41.2740	181.2027	95.6348
Day 2	GLF6	G650ER	G650ER\BR-700-725A1-12			151.0023	107.7149	260.7306	137.9154
Day 2	H25B	LEAR35	Learjet 36/TFE731-2					15.1002	1.0067
Day 2	HDJT	CNA510	Cessna Mustang Model 510 / PW615F			1.0067			
Day 2	LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A					6.0401	4.0267
Day 2	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460			2.0134	1.0067	1.0067	1.0067
Day 2	PC24	CNA55B	Cessna 550 Citation Bravo/PW530A					3.0200	1.0067
Day 2	TBM7	CNA208	Cessna 208 / PT6A-114					1.0067	
Night 1	A19N	A319-131	Airbus A319-131/V2522-A5					2.0134	
Night 1	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines			1.0067	2.0134	111.7417	27.1804
Night 1	A21N	A321-232	Airbus A321-232/IAE V2530-A5			2.0134		490.2540	70.4677
Night 1	A306	A300-622R	Airbus A300-622R/PW4158					3.0200	
Night 1	A320	A320-232	Airbus A320-232/V2527-A5			3.0200		467.1003	116.7751
Night 1	A321	A321-232	Airbus A321-232/IAE V2530-A5			4.0267		466.0936	87.5813
Night 1	A332	A330-343	Airbus A330-343/RR Trent 772B					136.9087	31.2071
Night 1	A333	A330-343	Airbus A330-343/RR Trent 772B			10.0668	2.0134	658.3698	106.7083
Night 1	A339	A330-343	Airbus A330-343/RR Trent 772B					25.1670	2.0134
Night 1	A346	A340-642	Airbus A340-642/RR Trent 556					1.0067	
Night 1	A359	A350-941	A350-941\RR trent XWB-84	1.0067				368.4455	57.3809
Night 1	A35K	A350-941	A350-941\RR trent XWB-84					53.3541	3.0200
Night 1	A388	A380-841	Airbus A380-841/RR Trent 970					44.2940	17.1136
Night 1	B38M	7378MAX	7378MAX\CFMLEap1B27					2.0134	
Night 1	B39M	7378MAX	7378MAX\CFMLEap1B27					2.0134	
Night 1	B737	737300	Boeing 737-300/CFM56-3B-1					3.0200	
Night 1	B738	737800	Boeing 737-800/CFM56-7B26					255.6972	63.4209
Night 1	B744	747400	Boeing 747-400/PW4056					132.8820	35.2339

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Night 1	B748	7478	Boeing 747-8F / Genx-2B67					197.3096	24.1604
Night 1	B752	757RR	Boeing 757-200/RB211-535E4					2.0134	
Night 1	B762	767CF6	Boeing 767-200/CF6-80A					2.0134	
Night 1	B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211					66.4410	7.0468
Night 1	B772	777200	Boeing 777-200ER/GE90-90B					2.0134	
Night 1	B773	777300	Boeing 777-300/Trent 892				1.0067	153.0156	40.2673
Night 1	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS					628.1694	85.5679
Night 1	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS			2.0134	3.0200	585.8887	112.7484
Night 1	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert					45.3007	12.0802
Night 1	B789	7879	Boeing 787-9/GENx-1B76A/P2			12.0802		109.7283	18.1203
Night 1	B78X	7879	Boeing 787-9/GENx-1B76A/P2					20.1336	1.0067
Night 1	CL60	CL601	Canadair CL-601/CF34-3A					5.0334	
Night 1	CRJ2	CL601	Canadair CL-601/CF34-3A					1.0067	
Night 1	E35L	EMB145	Embraer 145 ER / Allison AE3007					1.0067	
Night 1	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8					1.0067	
Night 1	GA6C	GV	Gulfstream GV/BR 710						1.0067
Night 1	GA7C	G650ER	G650ER\BR-700-725A1-12					1.0067	
Night 1	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business					3.0200	
Night 1	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express					5.0334	1.0067
Night 1	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business					6.0401	
Night 1	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8					6.0401	
Night 1	GLF5	GV	Gulfstream GV/BR 710					11.0735	3.0200
Night 1	GLF6	G650ER	G650ER\BR-700-725A1-12					9.0601	2.0134
Night 2	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines			3.0200	1.0067	20.1336	1.0067
Night 2	A21N	A321-232	Airbus A321-232/IAE V2530-A5			116.7751	38.2539	108.7216	3.0200
Night 2	A306	A300-622R	Airbus A300-622R/PW4158					2.0134	
Night 2	A319	A319-131	Airbus A319-131/V2522-A5			1.0067		1.0067	
Night 2	A320	A320-232	Airbus A320-232/V2527-A5			106.7083	26.1737	112.7484	
Night 2	A321	A321-232	Airbus A321-232/IAE V2530-A5			221.4700	55.3675	205.3631	8.0535
Night 2	A332	A330-343	Airbus A330-343/RR Trent 772B			53.3541	6.0401	39.2606	1.0067
Night 2	A333	A330-343	Airbus A330-343/RR Trent 772B	1.0067		338.2451	120.8018	394.6192	16.1069
Night 2	A339	A330-343	Airbus A330-343/RR Trent 772B			6.0401		3.0200	

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Night 2	A346	A340-642	Airbus A340-642/RR Trent 556			73.4878	23.1537	55.3675	3.0200
Night 2	A359	A350-941	A350-941\RR trent XWB-84			107.7149	22.1470	125.8352	1.0067
Night 2	A35K	A350-941	A350-941\RR trent XWB-84			227.5101	53.3541	206.3697	7.0468
Night 2	A388	A380-841	Airbus A380-841/RR Trent 970			2.0134		2.0134	
Night 2	B734	737400	Boeing 737-400/CFM56-3C-1			16.1069	4.0267	1.0067	
Night 2	B737	737300	Boeing 737-300/CFM56-3B-1			1.0067			
Night 2	B738	737800	Boeing 737-800/CFM56-7B26			24.1604	15.1002	40.2673	3.0200
Night 2	B739	737800	Boeing 737-800/CFM56-7B26			1.0067			
Night 2	B744	747400	Boeing 747-400/PW4056			36.2405	7.0468	46.3074	2.0134
Night 2	B748	7478	Boeing 747-8F / Genx-2B67			116.7751	21.1403	114.7617	1.0067
Night 2	B752	757RR	Boeing 757-200/RB211-535E4			2.0134		2.0134	
Night 2	B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211			18.1203	1.0067	13.0869	1.0067
Night 2	B772	777200	Boeing 777-200ER/GE90-90B			60.4009	6.0401	37.2472	1.0067
Night 2	B773	777300	Boeing 777-300/Trent 892			91.6080	11.0735	44.2940	1.0067
Night 2	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS			193.2829	20.1336	162.0758	4.0267
Night 2	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS			472.1337	81.5412	385.5591	12.0802
Night 2	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert			8.0535	1.0067	6.0401	
Night 2	B789	7879	Boeing 787-9/GENx-1B76A/P2	2.0134		125.8352	9.0601	104.6949	2.0134
Night 2	B78X	7879	Boeing 787-9/GENx-1B76A/P2			3.0200	1.0067	2.0134	1.0067
Night 2	C25M	CNA525C	Cessna Citation CJ4 525C /FJ44-4A					1.0067	
Night 2	CL35	CL600	Canadair CL-600/ALF502L					1.0067	
Night 2	CL60	CL601	Canadair CL-601/CF34-3A			2.0134	1.0067	1.0067	
Night 2	DH8D	DHC830	Bombardier de Havilland DASH 8-300/PW123			1.0067			
Night 2	E135	EMB145	Embraer 145 ER / Allison AE3007					1.0067	
Night 2	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8			1.0067			
Night 2	G280	CL600	Canadair CL-600/ALF502L					1.0067	
Night 2	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business					1.0067	
Night 2	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express			3.0200		4.0267	
Night 2	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business			5.0334	1.0067	2.0134	
Night 2	GLF5	GV	Gulfstream GV/BR 710			3.0200		6.0401	
Night 2	GLF6	G650ER	G650ER\BR-700-725A1-12			9.0601	1.0067	5.0334	
Night 3	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines			3.0200	1.0067	4.0267	

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Night 3	A21N	A321-232	Airbus A321-232/IAE V2530-A5			20.1336	12.0802	44.2940	9.0601
Night 3	A319	A319-131	Airbus A319-131/V2522-A5			1.0067	1.0067	1.0067	
Night 3	A320	A320-232	Airbus A320-232/V2527-A5			59.3942	22.1470	75.5011	2.0134
Night 3	A321	A321-232	Airbus A321-232/IAE V2530-A5			129.8619	16.1069	76.5078	
Night 3	A332	A330-343	Airbus A330-343/RR Trent 772B			113.7550	20.1336	73.4878	1.0067
Night 3	A333	A330-343	Airbus A330-343/RR Trent 772B			123.8218	36.2405	112.7484	8.0535
Night 3	A339	A330-343	Airbus A330-343/RR Trent 772B			4.0267			
Night 3	A343	A340-211	Airbus A340-211/CFM56-5C2			1.0067		1.0067	
Night 3	A346	A340-642	Airbus A340-642/RR Trent 556			82.5479	10.0668	52.3474	1.0067
Night 3	A359	A350-941	A350-941\RR trent XWB-84			661.3899	175.1626	563.7418	15.1002
Night 3	A35K	A350-941	A350-941\RR trent XWB-84			124.8285	20.1336	113.7550	2.0134
Night 3	A388	A380-841	Airbus A380-841/RR Trent 970			91.6080	16.1069	50.3341	
Night 3	B38M	7378MAX	7378MAX\CFMLEap1B27			1.0067			
Night 3	B734	737400	Boeing 737-400/CFM56-3C-1			7.0468		9.0601	
Night 3	B738	737800	Boeing 737-800/CFM56-7B26			141.9421	25.1670	58.3875	3.0200
Night 3	B744	747400	Boeing 747-400/PW4056			34.2272	5.0334	46.3074	2.0134
Night 3	B748	7478	Boeing 747-8F / Genx-2B67			130.8686	26.1737	108.7216	3.0200
Night 3	B752	757RR	Boeing 757-200/RB211-535E4			1.0067		1.0067	
Night 3	B762	767CF6	Boeing 767-200/CF6-80A					1.0067	
Night 3	B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211			6.0401	1.0067	9.0601	1.0067
Night 3	B772	777200	Boeing 777-200ER/GE90-90B			13.0869		27.1804	
Night 3	B773	777300	Boeing 777-300/Trent 892			1.0067	1.0067	3.0200	1.0067
Night 3	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS			117.7818	27.1804	108.7216	2.0134
Night 3	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS			620.1159	118.7884	582.8687	15.1002
Night 3	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert			51.3408	9.0601	74.4944	1.0067
Night 3	B789	7879	Boeing 787-9/GENx-1B76A/P2			12.0802	7.0468	13.0869	1.0067
Night 3	B78X	7879	Boeing 787-9/GENx-1B76A/P2			3.0200	4.0267	2.0134	1.0067
Night 3	CL35	CL600	Canadair CL-600/ALF502L					1.0067	
Night 3	CRJ2	CL601	Canadair CL-601/CF34-3A					1.0067	
Night 3	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8				1.0067		
Night 3	G280	CL600	Canadair CL-600/ALF502L			1.0067			
Night 3	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express			6.0401		8.0535	1.0067
Night 3	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business				2.0134	3.0200	1.0067
Night 3	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8			1.0067			

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Night 3	GLF5	GV	Gulfstream GV/BR 710				1.0067	4.0267	
Night 3	GLF6	G650ER	G650ER\BR-700-725A1-12			9.0601	5.0334	12.0802	
Night 3	LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A				1.0067		
Night 3	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460					1.0067	
Night 4	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines	81.5412	4.0267	164.0891	14.0935	76.5078	1.0067
Night 4	A21N	A321-232	Airbus A321-232/IAE V2530-A5	111.7417	7.0468	249.6571	18.1203	50.3341	4.0267
Night 4	A306	A300-622R	Airbus A300-622R/PW4158	49.3274	2.0134	142.9488	9.0601	40.2673	
Night 4	A319	A319-131	Airbus A319-131/V2522-A5			1.0067	2.0134	2.0134	
Night 4	A320	A320-232	Airbus A320-232/V2527-A5	299.9911	63.4209	591.9288	120.8018	146.9755	3.0200
Night 4	A321	A321-232	Airbus A321-232/IAE V2530-A5	188.2495	24.1604	516.4277	104.6949	197.3096	5.0334
Night 4	A332	A330-343	Airbus A330-343/RR Trent 772B	194.2896	23.1537	649.3097	115.7684	171.1359	4.0267
Night 4	A333	A330-343	Airbus A330-343/RR Trent 772B	653.3364	78.5212	2093.8979	327.1716	623.1360	13.0869
Night 4	A339	A330-343	Airbus A330-343/RR Trent 772B			1.0067		1.0067	
Night 4	A343	A340-211	Airbus A340-211/CFM56-5C2	1.0067		1.0067			
Night 4	A346	A340-642	Airbus A340-642/RR Trent 556	2.0134		4.0267	3.0200		
Night 4	A359	A350-941	A350-941\RR trent XWB-84	195.2963	29.1938	505.3542	103.6882	505.3542	24.1604
Night 4	A35K	A350-941	A350-941\RR trent XWB-84	133.8887	23.1537	282.8776	51.3408	87.5813	3.0200
Night 4	A388	A380-841	Airbus A380-841/RR Trent 970	26.1737	5.0334	112.7484	23.1537	102.6815	5.0334
Night 4	B38M	7378MAX	7378MAX\CFMLEap1B27	9.0601	1.0067	18.1203	3.0200	12.0802	
Night 4	B734	737400	Boeing 737-400/CFM56-3C-1	14.0935	9.0601	38.2539	14.0935	35.2339	3.0200
Night 4	B738	737800	Boeing 737-800/CFM56-7B26	222.4767	8.0535	597.9689	79.5279	173.1493	2.0134
Night 4	B744	747400	Boeing 747-400/PW4056	55.3675	7.0468	149.9956	36.2405	85.5679	4.0267
Night 4	B748	7478	Boeing 747-8F / Genx-2B67	240.5969	41.2740	723.8041	114.7617	280.8642	11.0735
Night 4	B752	757RR	Boeing 757-200/RB211-535E4	1.0067		1.0067		2.0134	
Night 4	B762	767CF6	Boeing 767-200/CF6-80A	40.2673	7.0468	133.8887	19.1270	24.1604	1.0067
Night 4	B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	136.9087	15.1002	390.5925	64.4276	89.5947	2.0134
Night 4	B772	777200	Boeing 777-200ER/GE90-90B	4.0267		16.1069		8.0535	
Night 4	B773	777300	Boeing 777-300/Trent 892	3.0200		14.0935	7.0468	6.0401	1.0067
Night 4	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	467.1003	71.4744	1137.5503	165.0958	365.4255	6.0401
Night 4	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	220.4633	39.2606	601.9957	131.8753	587.9021	19.1270
Night 4	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	12.0802	5.0334	27.1804	9.0601	13.0869	1.0067
Night 4	B789	7879	Boeing 787-9/Genx-1B76A/P2	10.0668	3.0200	17.1136	7.0468	17.1136	2.0134
Night 4	B78X	7879	Boeing 787-9/Genx-1B76A/P2	2.0134	2.0134	9.0601	5.0334	27.1804	2.0134
Night 4	CL30	CL600	Canadair CL-600/ALF502L					1.0067	
Night 4	CL60	CL601	Canadair CL-601/CF34-3A	2.0134		3.0200		1.0067	
Night 4	CRJ2	CL601	Canadair CL-601/CF34-3A			1.0067			

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Night 4	E35L	EMB145	Embraer 145 ER / Allison AE3007			1.0067			
Night 4	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	2.0134				2.0134	
Night 4	GA6C	GV	Gulfstream GV/BR 710			1.0067		1.0067	
Night 4	GA7C	G650ER	G650ER\BR-700-725A1-12	1.0067		1.0067			
Night 4	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business				1.0067	1.0067	
Night 4	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express		1.0067	3.0200	1.0067	2.0134	
Night 4	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	2.0134	1.0067	4.0267	1.0067	2.0134	
Night 4	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8			2.0134		3.0200	
Night 4	GLF5	GV	Gulfstream GV/BR 710	4.0267		6.0401	1.0067	2.0134	
Night 4	GLF6	G650ER	G650ER\BR-700-725A1-12	5.0334	3.0200	9.0601	4.0267	9.0601	
Night 4	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460					1.0067	
Night 5	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines	3.0200		1.0067			
Night 5	A21N	A321-232	Airbus A321-232\IAE V2530-A5			5.0334	1.0067		
Night 5	A306	A300-622R	Airbus A300-622R/PW4158	1.0067		6.0401		4.0267	
Night 5	A319	A319-131	Airbus A319-131/V2522-A5	2.0134		7.0468	1.0067		
Night 5	A320	A320-232	Airbus A320-232/V2527-A5	6.0401		32.2138	7.0468	11.0735	
Night 5	A321	A321-232	Airbus A321-232\IAE V2530-A5	34.2272	7.0468	84.5613	34.2272	18.1203	
Night 5	A332	A330-343	Airbus A330-343/RR Trent 772B	64.4276	2.0134	227.5101	37.2472	80.5345	1.0067
Night 5	A333	A330-343	Airbus A330-343/RR Trent 772B	57.3809	4.0267	225.4967	35.2339	57.3809	
Night 5	A339	A330-343	Airbus A330-343/RR Trent 772B					1.0067	
Night 5	A359	A350-941	A350-941\RR trent XWB-84	6.0401		7.0468	2.0134	1.0067	
Night 5	A35K	A350-941	A350-941\RR trent XWB-84	5.0334		7.0468	1.0067	4.0267	
Night 5	A388	A380-841	Airbus A380-841/RR Trent 970	1.0067					
Night 5	B734	737400	Boeing 737-400/CFM56-3C-1	1.0067		3.0200			
Night 5	B738	737800	Boeing 737-800/CFM56-7B26	15.1002	1.0067	35.2339	5.0334	16.1069	
Night 5	B744	747400	Boeing 747-400/PW4056	18.1203		42.2806	6.0401	16.1069	
Night 5	B748	7478	Boeing 747-8F / Genx-2B67	105.7016	9.0601	229.5234	36.2405	63.4209	1.0067
Night 5	B752	757RR	Boeing 757-200/RB211-535E4	2.0134					
Night 5	B762	767CF6	Boeing 767-200/CF6-80A	4.0267	1.0067	28.1871	2.0134	9.0601	
Night 5	B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	44.2940	1.0067	175.1626	27.1804	80.5345	
Night 5	B772	777200	Boeing 777-200ER/GE90-90B					1.0067	
Night 5	B773	777300	Boeing 777-300/Trent 892			1.0067			
Night 5	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	325.1582	21.1403	1004.6683	194.2896	279.8575	6.0401

Operational Period#	ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	North Runway		Centre Runway		South Runway	
				07L	25R	07C	25C	07R	25L
Night 5	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	6.0401		8.0535	1.0067	7.0468	
Night 5	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	1.0067	1.0067	2.0134	1.0067	1.0067	
Night 5	B789	7879	Boeing 787-9/GENx-1B76A/P2	2.0134		3.0200	2.0134		
Night 5	C560	CNA55B	Cessna 550 Citation Bravo/PW530A					1.0067	
Night 5	CL35	CL600	Canadair CL-600/ALF502L	1.0067		3.0200			
Night 5	CL60	CL601	Canadair CL-601/CF34-3A	3.0200		4.0267		3.0200	
Night 5	DH8D	DHC830	Bombardier de Havilland DASH 8-300/PW123			2.0134			
Night 5	FA50	FAL900EX	FAL900EX\TFE731-60			1.0067			
Night 5	FA8X	GIV	Gulfstream GIV-SP/TAY 611-8		1.0067				
Night 5	GA7C	G650ER	G650ER\BR-700-725A1-12			1.0067		1.0067	
Night 5	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	1.0067					
Night 5	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	3.0200		3.0200	1.0067	3.0200	
Night 5	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	6.0401	1.0067	6.0401		3.0200	
Night 5	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	2.0134		3.0200	1.0067	4.0267	
Night 5	GLF5	GV	Gulfstream GV/BR 710	1.0067		5.0334	1.0668		
Night 5	GLF6	G650ER	G650ER\BR-700-725A1-12	3.0200	1.0067	7.0468	1.0067	3.0200	
Night 5	H25B	LEAR35	Learjet 36/TFE731-2	1.0067					
Night 5	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460	1.0067		1.0067			
				4,136	524	51,668	23,352	86,993	29,320
				195,994					

# Day 1: 0700 – 0759; Day 2: 0800 – 2159; Night 1: 2200 – 2259; Night 2: 2300 – 2359; Night 3: 0000 – 0059; Night 4: 0100 – 0459; Night 5: 0500 – 0659.

**Table B.7: Arrivals Runway Utilization by Operational Period**

Operational Period	North Runway		Centre Runway		South Runway	
	07L	25R	07C	25C	07R	25L
Day 1 (0700 – 0759)	1886.5215	324.1515	315.0914	48.3207	952.3209	146.9755
Day 2 (0800 – 2159)	80111.7297	38664.6307	3047.2255	343.2785	8510.4871	6948.1171
Night 1 (2200 – 2259)	8313.1775	1479.8221	236.5702	2.0134	100.6682	17.1136
Night 2 (2300 – 2359)	5294.1391	954.3343	2260.0004	94.6281	146.9755	2.0134
Night 3 (0000 – 0059)	4666.9764	815.4122	2008.3300	90.6014	254.6905	3.0200
Night 4 (0100 – 0459)	5030.3885	766.0848	7505.8188	1099.2964	1658.0048	12.0802
Night 5 (0500 – 0659)	3485.1320	381.5324	5845.8006	945.2741	1235.1984	26.1737
	108,788	43,386	21,219	2,623	12,858	7,155
	196,030					

**Table B.8: Departures Runway Utilization by Operational Period**

Operational Period	North Runway		Centre Runway		South Runway	
	07L	25R	07C	25C	07R	25L
Day 1 (0700 – 0759)	14.0935		2230.8066	654.3431	3371.3770	381.5324
Day 2 (0800 – 2159)			32981.9125	19642.3733	69608.0128	27748.1744
Night 1 (2200 – 2259)	1.0067		34.2272	8.0535	5084.7493	926.1472
Night 2 (2300 – 2359)	3.0200		2451.2699	527.5012	2258.9937	68.4544
Night 3 (0000 – 0059)			2574.0851	564.7484	2243.8935	70.4677
Night 4 (0100 – 0459)	3391.5106	474.1471	9224.2244	1557.3366	3756.9361	116.7751
Night 5 (0500 – 0659)	726.8242	50.3341	2171.4124	397.6393	669.4433	8.0535
	4,136	524	51,668	23,352	86,993	29,320
	195,994					

**Table B.9: Departure Stage Length Distribution**

Aircraft ID	ANP Aircraft	ANP Aircraft Description	Max Stage Length	1	2	3	4	5	6	7	8	9
A124	74720B	Boeing 747-200/JT9D-7Q	7			1.0067						
A19N	A319-131	Airbus A319-131/V2522-A5	5	2.0134	157.0423	1.0067	1.0067	4.0267				
A20N	A320-270N	A320-271N/PW1127G-JM with mod160734 engines	5	932.1873	2801.5952	2470.3969	356.3653	254.6905				
A21N	A321-232	Airbus A321-232/IAE V2530-A5	5	6318.9410	7377.9702	5660.5712	2918.3702	74.4944				
A306	A300-622R	Airbus A300-622R/PW4158	6	22.1470	8.0535	254.6905		3.0200				
A318	A319-131	Airbus A319-131/V2522-A5	5	4.0267	16.1069	7.0468	3.0200	1.0067				
A319	A319-131	Airbus A319-131/V2522-A5	5	12.0802	249.6571	389.5858	4.0267	7.0468				
A320	A320-232	Airbus A320-232/V2527-A5	5	2719.0473	11043.2982	4671.0031	1617.7375	168.1158				
A321	A321-232	Airbus A321-232/IAE V2530-A5	5	4790.7982	6423.6359	6336.0546	812.3921	10.0668				
A332	A330-343	Airbus A330-343/RR Trent 772B	7	477.1671	1157.6840	640.2496	948.2942	567.7685	358.3787	54.3608		
A333	A330-343	Airbus A330-343/RR Trent 772B	7	5449.1680	10083.9306	7678.9680	4064.9807	494.2807	924.1338	348.3119		
A339	A330-343	Airbus A330-343/RR Trent 772B	7	237.5769	905.0068		10.0668					
A343	A340-211	Airbus A340-211/CFM56-5C2	7						1.0067	3.0200		
A346	A340-642	Airbus A340-642/RR Trent 556	7							314.0847		
A359	A350-941	A350-941\RR trent XWB-84	8	432.8731	922.1204	3248.5618	1318.7530	453.0068	1921.7554	2336.5082	1310.6996	
A35K	A350-941	A350-941\RR trent XWB-84	8	23.1537	84.5613	397.6393	124.8285	47.3140	259.7239	1192.9178	2095.9113	
A388	A380-841	Airbus A380-841/RR Trent 970	8		364.4188	124.8285		365.4255				
AJ27	EMB190	ERJ190-100	4	1.0067								

Aircraft ID	ANP Aircraft	ANP Aircraft Description	Max Stage Length	1	2	3	4	5	6	7	8	9
ASTR	IA1125	IAI-1125 ASTRA/TFE731-3A	1	6.0401								
B38M	7378MAX	7378MAX\CFMLEap1B27	6		342.2718	488.2406	54.3608	2.0134	2.0134			
B39M	7378MAX	7378MAX\CFMLEap1B27	6		3.0200		1.0067					
B733	737300	Boeing 737-300/CFM56-3B-1	4		162.0758		15.1002					
B734	737400	Boeing 737-400/CFM56-3C-1	4		302.0045		225.4967					
B737	737300	Boeing 737-300/CFM56-3B-1	4	39.2606	30.2005	15.1002	11.0735					
B738	737800	Boeing 737-800/CFM56-7B26	6	2852.9359	4921.6668	4194.8426	1667.0649	17.1136	73.4878			
B739	737800	Boeing 737-800/CFM56-7B26	6		131.8753	119.7951						
B744	747400	Boeing 747-400/PW4056	9	755.0113	441.9333	1531.1629	1569.4168	3367.3503	2449.2566	21.1403	2.0134	23.1537
B748	7478	Boeing 747-8F / Genx-2B67	9	334.2183	331.1983	480.1872	919.1004	1601.6306	3281.7823	79.5279	10.0668	1.0067
B752	757RR	Boeing 757-200/RB211-535E4	7			5.0334	63.4209	5.0334				
B762	767CF6	Boeing 767-200/CF6-80A	7			278.8508	57.3809	1.0067				
B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	7	14.0935	1.0067	279.8575	737.8977	737.8977	286.9043	15.1002		
B772	777200	Boeing 777-200ER/GE90-90B	9	6.0401	92.6147	286.9043	6.0401			119.7951	77.5145	6.0401
B773	777300	Boeing 777-300/Trent 892	7	1344.9268	1588.5437	1141.5770	1554.3165			18.1203		
B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	9	1154.6639	99.6615	833.5324	548.6415	4087.1277	2294.2276	1373.1138	279.8575	364.4188
B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	9	312.0713	582.8687	1515.0560	1921.7554	1535.1896	1861.3545	2071.7509	2729.1141	349.3186
B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	9	2.0134	270.7974	310.0580	896.9534		197.3096		7.0468	8.0535
B789	7879	Boeing 787-9/GENx-1B76A/P2	8	492.2674	196.3029	371.4655	615.0825	17.1136	20.1336	544.6148	1072.1160	

Aircraft ID	ANP Aircraft	ANP Aircraft Description	Max Stage Length	1	2	3	4	5	6	7	8	9
B78X	7879	Boeing 787-9/GENx-1B76A/P2	8	708.7039		228.5167				7.0468	4.0267	
C25C	CIT3	Cessna Citation III/TFE731-3-100S	1	31.2071								
C25M	CNA525C	Cessna Citation CJ4 525C /FJ44-4A	1	2.0134								
C560	CNA55B	Cessna 550 Citation Bravo/PW530A	1	7.0468								
C56X	CNA55B	Cessna 550 Citation Bravo/PW530A	1	3.0200								
C680	CNA680	Cessna Citation Sovereign 680 / PW306C	1	1.0067								
C700	CNA680	Cessna Citation Sovereign 680 / PW306C	1	1.0067								
C750	CNA750	Cessna Citation X/Rolls Royce Allison AE3007C	1	5.0334								
C919	A320-211	Airbus A320-211/CFM56-5A1	5		322.1381	14.0935						
CL30	CL600	Canadair CL-600/ALF502L	1	1.0067								
CL35	CL600	Canadair CL-600/ALF502L	1	97.6481								
CL60	CL601	Canadair CL-601/CF34-3A	1	446.9667								
CRJ2	CL601	Canadair CL-601/CF34-3A	1	34.2272								
DH8D	DHC830	Bombardier de Havilland DASH 8-300/PW123	1	4.0267								
E135	EMB145	Embraer 145 ER / Allison AE3007	4				3.0200					
E190	EMB190	ERJ190-100	4				2.0134					
E35L	EMB145	Embraer 145 ER / Allison AE3007	4	2.0134	4.0267	4.0267	6.0401					
E550	CL600	Canadair CL-600/ALF502L	1	1.0067								
E55P	CL600	Canadair CL-600/ALF502L	1	2.0134								

Aircraft ID	ANP Aircraft	ANP Aircraft Description	Max Stage Length	1	2	3	4	5	6	7	8	9
F2TH	CL600	Canadair CL-600/ALF502L	1	4.0267								
F900	FAL900EX	FAL900EX\TFE731-60	7		2.0134			1.0067	1.0067			
FA50	FAL900EX	FAL900EX\TFE731-60	7				1.0067					
FA6X	CRJ9-ER	Bombardier CL-600-2D15/CL-600-2D24/CF34-8C5	5	1.0067	1.0067							
FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	1	79.5279								
FA8X	GIV	Gulfstream GIV-SP/TAY 611-8	1	16.1069								
G150	IA1125	IAI-1125 ASTRA/TFE731-3A	1	3.0200								
G280	CL600	Canadair CL-600/ALF502L	1	42.2806								
GA5C	GV	Gulfstream GV/BR 710	1	10.0668								
GA6C	GV	Gulfstream GV/BR 710	1	54.3608								
GA7C	G650ER	G650ER\BR-700-725A1-12	9	12.0802	8.0535	12.0802	8.0535	7.0468	4.0267	5.0334	4.0267	5.0334
GA8C	G650ER	G650ER\BR-700-725A1-12	9	1.0067								
GALX	CL600	Canadair CL-600/ALF502L	1	8.0535								
GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	7	28.1871	46.3074	29.1938	16.1069	2.0134	2.0134	3.0200		
GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	8	57.3809	60.4009	92.6147	61.4076	13.0869	17.1136	30.2005	31.2071	
GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	7	83.5546	137.9154	132.8820	92.6147	39.2606	36.2405	16.1069		
GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	1	272.8107								
GLF5	GV	Gulfstream GV/BR 710	1	446.9667								

Aircraft ID	ANP Aircraft	ANP Aircraft Description	Max Stage Length	1	2	3	4	5	6	7	8	9
GLF6	G650ER	G650ER\BR-700-725A1-12	9	74.4944	233.5502	164.0891	94.6281	35.2339	38.2539	77.5145	36.2405	26.1737
H25B	LEAR35	Learjet 36/TFE731-2	1	17.1136								
HDJT	CNA510	Cessna Mustang Model 510 / PW615F	1	1.0067								
LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A	1	11.0735								
MD11	MD11PW	McDonnell Douglas MD-11/PW 4460	7	1.0067		8.0535						
PC24	CNA55B	Cessna 550 Citation Bravo/PW530A	1	4.0267								
TBM7	CNA208	Cessna 208 / PT6A-114	1	1.0067								

## C. Aircraft Substitutions

**Table C.1: List of Aircraft Substitutions**

ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description
A124	74720B	Boeing 747-200/JT9D-7Q
A19N	A319-131	Airbus A319-131/V2522-A5
A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines
A21N	A321-232	Airbus A321-232/IAE V2530-A5
A306	A300-622R	Airbus A300-622R/PW4158
A318	A319-131	Airbus A319-131/V2522-A5
A319	A319-131	Airbus A319-131/V2522-A5
A320	A320-232	Airbus A320-232/V2527-A5
A321	A321-232	Airbus A321-232/IAE V2530-A5
A332	A330-343	Airbus A330-343/RR Trent 772B
A333	A330-343	Airbus A330-343/RR Trent 772B
A339	A330-343	Airbus A330-343/RR Trent 772B
A343	A340-211	Airbus A340-211/CFM56-5C2
A346	A340-642	Airbus A340-642/RR Trent 556
A359	A350-941	A350-941\RR trent XWB-84
A35K	A350-941	A350-941\RR trent XWB-84
A388	A380-841	Airbus A380-841/RR Trent 970
AJ27	EMB190	ERJ190-100
ASTR	IA1125	IAI-1125 ASTRA/TFE731-3A
AT76	DHC830	Bombardier de Havilland DASH 8-300/PW123
B38M	7378MAX	7378MAX\CFMLEap1B27
B39M	7378MAX	7378MAX\CFMLEap1B27
B733	737300	Boeing 737-300/CFM56-3B-1
B734	737400	Boeing 737-400/CFM56-3C-1
B737	737300	Boeing 737-300/CFM56-3B-1
B738	737800	Boeing 737-800/CFM56-7B26
B739	737800	Boeing 737-800/CFM56-7B26
B744	747400	Boeing 747-400/PW4056
B748	7478	Boeing 747-8F / Genx-2B67
B752	757RR	Boeing 757-200/RB211-535E4
B762	767CF6	Boeing 767-200/CF6-80A
B763	7673ER	BOEING 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211
B772	777200	Boeing 777-200ER/GE90-90B
B773	777300	Boeing 777-300/Trent 892
B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS
B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS
B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert
B789	7879	Boeing 787-9/Genx-1B76A/P2
B78X	7879	Boeing 787-9/Genx-1B76A/P2
C25C	CIT3	Cessna Citation III/TFE731-3-100S
C25M	CNA525C	Cessna Citation CJ4 525C /FJ44-4A
C560	CNA55B	Cessna 550 Citation Bravo/PW530A

ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description
C56X	CNA55B	Cessna 550 Citation Bravo/PW530A
C680	CNA680	Cessna Citation Sovereign 680 / PW306C
C700	CNA680	Cessna Citation Sovereign 680 / PW306C
C750	CNA750	Cessna Citation X/Rolls Royce Allison AE3007C
C919	A320-211	Airbus A320-211/CFM56-5A1
CL30	CL600	Canadair CL-600/ALF502L
CL35	CL600	Canadair CL-600/ALF502L
CL60	CL601	Canadair CL-601/CF34-3A
CRJ2	CL601	Canadair CL-601/CF34-3A
DH8D	DHC830	Bombardier de Havilland DASH 8-300/PW123
E135	EMB145	Embraer 145 ER / Allison AE3007
E190	EMB190	ERJ190-100
E35L	EMB145	Embraer 145 ER / Allison AE3007
E550	CL600	Canadair CL-600/ALF502L
E55P	CL600	Canadair CL-600/ALF502L
F2TH	CL600	Canadair CL-600/ALF502L
F900	FAL900EX	FAL900EX\TFE731-60
FA50	FAL900EX	FAL900EX\TFE731-60
FA6X	CRJ9-ER	Bombardier CL-600-2D15/CL-600-2D24/CF34-8C5
FA7X	GIV	Gulfstream GIV-SP/TAY 611-8
FA8X	GIV	Gulfstream GIV-SP/TAY 611-8
G150	IA1125	IAI-1125 ASTRA/TFE731-3A
G280	CL600	Canadair CL-600/ALF502L
GA5C	GV	Gulfstream GV/BR 710
GA6C	GV	Gulfstream GV/BR 710
GA7C	G650ER	G650ER\BR-700-725A1-12
GA8C	G650ER	G650ER\BR-700-725A1-12
GALX	CL600	Canadair CL-600/ALF502L
GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business
GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express
GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business
GLF4	GIV	Gulfstream GIV-SP/TAY 611-8
GLF5	GV	Gulfstream GV/BR 710
GLF6	G650ER	G650ER\BR-700-725A1-12
H25B	LEAR35	Learjet 36/TFE731-2
HDJT	CNA510	Cessna Mustang Model 510 / PW615F
LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A
MD11	MD11PW	McDonnell Douglas MD-11/PW 4460
PC24	CNA55B	Cessna 550 Citation Bravo/PW530A
TBM7	CNA208	Cessna 208 / PT6A-114

# Annex I Prediction Verification

## A. 1 Prediction Verification Requirements

Section 3.5 of the ANM&A Plan has specified the prediction verification related requirements for the 3RS operation and these are reproduced in italics below:

*As already described in Section 3.1 above, a prediction verification exercise has already been undertaken based on available airport operational data for the first full year operation of the third runway of the Project i.e., data from 8 July 2022 to 7 July 2023 for the first full year of I-2RS operation that involves the use of the third runway. Findings of the prediction verification exercise have been reported in the Prediction Verification Report submitted to EPD.*

*For the planned 3RS operation, while the Updated EM&A Manual has not specified the need to submit a separate Prediction Verification Report, the findings of a similar prediction verification exercise that may be obtained by comparing the updated NEF contour simulated for the first full year of 3RS operation overlaid onto the NEF 25 contours obtained for both the Worst Operation Scenario and Design Capacity Scenario of the 3RS operation shall be presented as part of the Noise Contour Report mentioned in Section 5 for the 3RS operation. This exercise will help confirm the effectiveness of the planned mitigation measures and that the updated NEF contour would not encroach onto any new NSRs.*

## A. 2 Verification Methodology

Details of the aircraft noise simulation methodology, including the computational model adopted, which have been agreed with EPD prior to the analysis, have been presented in Section 3 of the NCR. In this prediction verification exercise, the updated NEF 25 contour obtained using airport operational data from first year of the 3RS operation has been overlaid onto the NEF 25 contours obtained for both the Worst Operation Scenario and Design Capacity Scenario of the 3RS operation.

The coverage of the updated NEF 25 contour obtained for the first year of the 3RS operation has been compared with the predicted ones for both the Worst Operation Scenario and Design Capacity Scenario of the 3RS operation, focusing on those NSRs that are situated within the NEF 25 contour for verifying that the updated NEF 25 contour would not encroach onto any new NSRs. The comparison results are then used as the basis to verify the effectiveness of the measures that have been planned and implemented to mitigate aircraft noise impact during the 3RS operation.

It should be noted that as already described in Section 7.8.1 of approved 3RS EIA Report and also Section 4.1.3.4 of the Updated EM&A Manual, variances in noise contours within reasonable ranges are envisaged and considered acceptable when the updated NEF 25 contour is compared with the predicted ones presented in the approved 3RS EIA Report, as the latter could only be produced based on forecast data and reasonable assumptions at the 3RS EIA stage. Yet, the key focus of the current exercise is to ensure that with the mitigation measures planned and implemented for the 3RS operation, no additional NSRs would be subjected to adverse environmental impact under the requirements of the EIAO-TM.

Besides, as already described in Section 7.3.4.9 of the approved 3RS EIA Report and Section 2.3 of the Procedures for Mitigation of Aircraft Noise, it should be noted that there are relevant mitigation measures, including putting the existing south runway on standby where possible at night, that can only be implemented during the night-time period to the extent practical. Potential noise impacts on surrounding communities have to be considered along with the overriding goals of meeting the purpose and need for the Project and the need to maintain safe and efficient airport operations.

## A.3 Verification Results

Based on the collected actual airport operational data, the updated NEF 25 contour for the first full year of the 3RS operation has been simulated and the details are as presented in the NCR. As findings presented for the prediction verification exercise, the updated NEF 25 has been overlaid onto the NEF 25 contours of both the Worst Operation Scenario and Design Capacity Scenario of the 3RS operation and this is presented in **Figure A.1**. The NEF 25 contour predicted for the Interim Phase Scenario is also shown in the same figure for reference.

As shown in **Figure A.1**, the updated NEF 25 contour simulated based on actual operational data of the first 12 months of 3RS operation is generally well within the Worst Operation Scenario NEF 25 contour and also the Design Capacity Scenario NEF 25 contour presented in the approved 3RS EIA Report, except for a narrow strip to the south and southeast of HKIA which lies over seawater and the airport island.

It is also clear from **Figure A.1** (and also **Figure 4.4** of the NCR) that the updated NEF 25 contour only encroaches onto Sha Lo Wan and certain village houses/licensed structures along the North Lantau shorelines. This is consistent with the predictions in the approved 3RS EIA Report (reproduced in **Figures 4.1** and **4.3** of the NCR), which indicated that, after exhausting all practicable direct noise mitigation measures, it would remain unavoidable for some village houses/licensed structures in and around Sha Lo Wan and along the North Lantau shorelines to fall within the NEF 25 contour due to their close proximity to the airport.

Therefore, while variances are observed in the updated NEF 25 contour when compared with the contours in the approved 3RS EIA report, the updated contour does not encroach onto any new NSRs, confirming the representativeness of the aircraft noise assessment conducted at the 3RS EIA stage. Furthermore, this also indicates that with the implementation of noise mitigation measures for the 3RS operation, no additional NSRs would be subject to adverse environmental impacts under the requirements of the EIAO-TM.



### LEGEND

- UPDATED NEF 25 CONTOUR
- NEF 25 CONTOUR IN 3RS EIA REPORT FOR THE INTERIM PHASE SCENARIO
- NEF 25 CONTOUR IN 3RS EIA REPORT FOR THE WORST OPERATION SCENARIO
- NEF 25 CONTOUR IN 3RS EIA REPORT FOR THE DESIGN CAPACITY SCENARIO

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Project

**EXPANSION OF HONG KONG INTERNATIONAL AIRPORT INTO A THREE-RUNWAY SYSTEM**

Title

**UPDATED NEF 25 CONTOUR COMPARED WITH NEF 25 CONTOURS FOR THE INTERIM PHASE SCENARIO, WORST OPERATION SCENARIO AND DESIGN CAPACITY SCENARIO OF THE 3RS EIA REPORT**

Designed	CL	Eng check	JY
Drawn	CL	Coordination	EY
Dwg check	CL	Approved	JY
Scale at A3	Status	Rev	
1:100000			
Drawing Number	<b>FIGURE A.1</b>		

