MOTT MACDONALD

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

Prediction Verification Report

February 2025

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

Prediction Verification Report

February 2025

Mott MacDonald Hong Kong Limited
registered in Hong Kong no. 236497

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This Submission of Prediction Verification Report

has been reviewed and certified by

the Environmental Team Leader (ETL) in accordance with

Condition 1.9 of Environmental Permit No. EP-489/2014.

Certified by: 

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

Date 12 February 2025

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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

18 February 2025

Dear Sir,

Contract No. 3102
3RS Independent Environmental Checker Consultancy Services

Verification of Prediction Verification Report

Reference is made to the ET's submission of Prediction Verification Report, certified by the ET Leader on 12 February 2025.

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 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

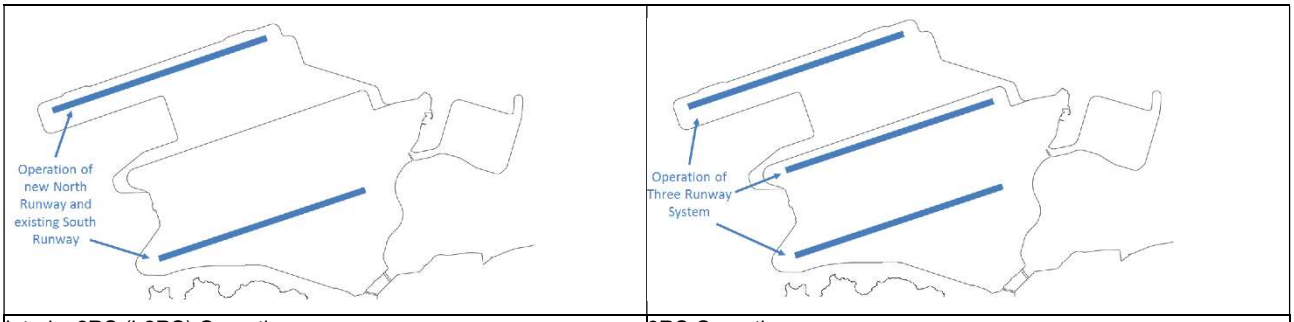
Under the Environmental Impact Assessment Ordinance (EIAO), the Environmental Impact Assessment (EIA) Report and the Environmental Monitoring and Audit (EM&A) Manual (Register No.: AEIAR-185/2014) prepared for the "Expansion of Hong Kong International Airport into a Three-Runway System" (hereafter referred 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 of the runway started on 8 July 2022 and formal commencement of operation started since 25 November 2022, the previous north runway is 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) are 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 will be operated under the 3RS, which is hereafter referred to as the 3RS operation.

Figure 1.1: Runway Operation Configuration



Interim 2RS (I-2RS) Operation	3RS Operation

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[1], the Airport Authority Hong Kong (AAHK) should carry out an exercise to verify predictions on the effectiveness of measures to mitigate aircraft noise impact and prepare a Prediction Verification Report. Besides, according to Section 4.1.3.1 of the Updated EM&A Manual, the verification exercise shall be undertaken upon availability of relevant airport operation data for the first full year operation of the third runway, i.e., from 8 July 2022 to 7 July 2023 for the I-2RS operation. The Prediction Verification Report shall be certified by the Environmental Team Leader (ETL), verified by the Independent Environmental Checker (IEC) and submitted to EPD for approval. Mott MacDonald (MM) has been appointed by AAHK as the Consultant to provide consultancy services for the 3RS Project, which include, among others, the preparation of this Prediction Verification Report.

1.2 Purpose of this Report

This Prediction Verification Report has been prepared to present the findings of the verification exercise.

1.3 Structure of this Report

Following this introductory section, this Prediction Verification Report is structured as follows:

- Section 2 Prediction Verification Process
- Section 3 Verification Results
- Section 4 Conclusion

[1] See the web link below for locating the latest version (dated December 2020) of the Updated EM&A Manual available on the 3RS project's dedicated website:
https://env.threerunwaysystem.com/ep%20submissions/202101%20EM&A%20Manual/EM&A%20Manual.pdf

2 Prediction Verification Process

2.1 Updated EM&A Manual Requirements

Section 4.1.3 of the Updated EM&A Manual provides specified requirements for undertaking the prediction verification exercise, as extracted and reproduced in italics below:

4.1.3.1 The purpose of this task is for verification of predictions on the effectiveness of measures to mitigate aircraft noise impact of the project. This verification exercise shall be undertaken upon availability of relevant airport operation data for the first full year operation of the third runway of the project. A Prediction Verification Report, certified by the ETL and verified by the IEC, shall be submitted to EPD for approval.

4.1.3.2 As part of the prediction verification exercise, AAHK should collect radar data showing airport and flight operations for the first full year operation of the proposed third runway from Civil Aviation Department (CAD). Based on the radar data collected, the AAHK should carry out aircraft noise contour simulation. Similar approach adopted to process radar data for the prevailing scenario contour as presented in Chapter 7 of the EIA Report might be applied (individual radar data be pre-processed and annual daily average noise contours be produced by Integrated Noise Model (INM) for daily results) and the detailed methodology shall be agreed with EPD. The computational model to be used shall also be agreed with EPD prior to the analysis.

4.1.3.3 The Noise Exposure Forecast (NEF) 25 contour prepared based on radar data should be compared against the noise contours presented in Chapter 7 of the EIA Report for verifying the effectiveness of measures to mitigate the aircraft noise impact of the project. If the comparison of contours shows a reasonable converge, this would imply the aircraft noise prediction by computer simulation with forecast, assumptions and proposal of mitigation measures would reliably reflect that by actual airport and flight operations. In case discrepancies are observed, explanation shall be given and analysed as part of the Prediction Verification Report.

4.1.3.4 It shall be noted that the noise contours presented in Chapter 7 of the EIA Report are based on reasonable assumptions and input data including air traffic forecast, runway mode of operation, flight tracks and flight track utilisation, and proposed mitigation measures. Therefore, whilst it is being compared with the one generated by actual airport and flight operations, variances within reasonable ranges are envisaged and considered acceptable. Having said that, it is essential to ensure that with the mitigation measures recommended in the EIA Report, no additional noise sensitive receivers should be subject to adverse environmental impact under the requirements of the EIAO-TM. Detailed examination should be followed especially for those areas with major variances and the underneath rationale(s) will be elaborated.

In summary, as part of the prediction verification exercise, available actual operational data shall be used to generate an updated NEF 25 contour for the first full year operation of the third runway, of which the computational model to be used shall be agreed with EPD prior to the analysis. The updated noise contour shall be compared against those presented in the approved 3RS EIA Report and to confirm if the prediction by computer simulation with forecast data at the 3RS EIA stage has reliably reflected actual airport and flight operations, and while variances within reasonable ranges are considered acceptable, no additional noise sensitive receivers (NSRs) should be subject to adverse environmental impact under the requirements of the Technical Memorandum on EIA Process (EIAO-TM).

2.2 Verification Methodology

As per the requirements set out in Section 4.1.3 of the Updated EM&A Manual that has been reproduced above, actual airport operation data including daily radar data for the first full year operation of I-2RS from 8 July 2022 to 7 July 2023 have been collected from CAD. Based on the collected actual data, aircraft noise contour simulation has been carried out to produce an updated NEF 25 contour. The 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 Noise Contour Report for the I-2RS operation. These details, including the appendices, are reproduced in **Annex I** as part of this Prediction Verification Report.

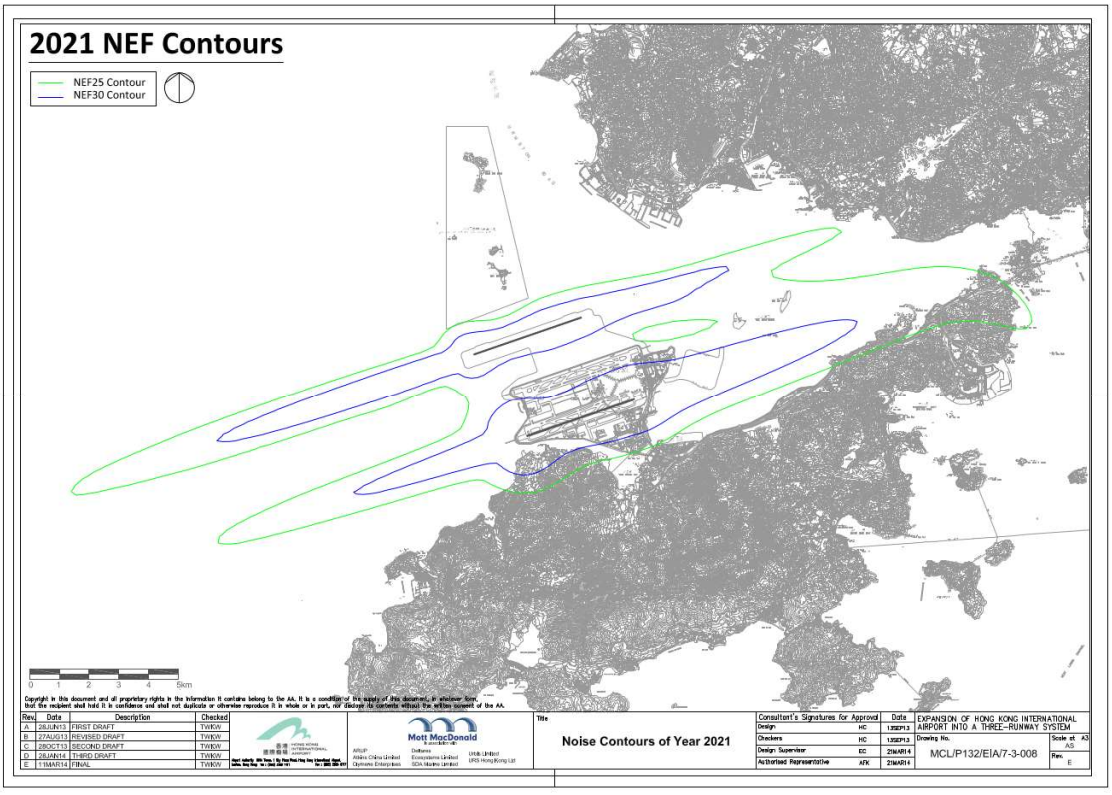
In this Prediction Verification Report, the updated NEF 25 contour obtained using airport operational data has been compared with the predicted NEF 25 contour for the Interim Phase Scenario (also named as the Year 2021 Scenario) of the I-2RS operation set out in Drawing No. MCL/P132/EIA/7-3-008 of the approved 3RS EIA Report, which is reproduced in **Figure 2.1**.

The coverage of the updated NEF 25 contour and the predicted one presented in the approved 3RS EIA Report for the I-2RS operation has been compared, 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 effectiveness of the measures which have been planned and implemented to mitigate aircraft noise impact during the I-2RS 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 one 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 I-2RS operation, no additional NSRs would be subjected to adverse environmental impact under the requirements of the EIAO-TM.

The results for comparison of the updated NEF 25 contour with the predicted one presented in the approved 3RS EIA Report are presented in **Section 3**.

Figure 2.1: 2021 NEF Contours in the approved 3RS EIA Report



Source: 3RS EIA Report Drawing No. MCL/P132/EIA/7-3-008.

3 Verification Results

Based on the collected actual airport operational data, the updated NEF 25 contour for the first full year of I-2RS operation has been simulated and the details are presented in the Noise Contour Report for the I-2RS operation. A comparison between the updated NEF 25 contour and the 2021 NEF 25 contour predicted for the I-2RS operation in the approved 3RS EIA Report is presented in **Figure 3.1**. While NEF 30 is no longer stipulated as an aircraft noise standard in the prevailing EIAO-TM[2], the NEF 30 contour presented in the approved 3RS EIA and the updated one obtained from aircraft noise modelling using actual airport operation data are also presented in **Figure 3.1** for reference.

As shown in **Figure 3.1**, the updated NEF 25 contour simulated based on actual operational data of the first 12 months of I-2RS operation is generally well within the 2021 NEF 25 contour presented in the approved 3RS EIA Report except for one small section near the west end of the updated NEF 25 contour that is over sea water, as highlighted in **Figure 3.1**.

A closer comparison of the updated NEF 25 contour with the 2021 NEF 25 contour presented in the approved 3RS EIA Report in the following areas are illustrated in **Figures 3.2** to **3.4**:

- Figure 3.2: Sha Lo Wan and Tung Chung areas ;
- Figure 3.3: Ma Wan and Northern Lantau areas; and
- Figure 3.4: Siu Lam area.

From the figures presented above, it is clear that the updated NEF 25 contour only encroaches onto some village houses/ licensed structures in and around Sha Lo Wan and certain village houses/ licensed structures along North Lantau shorelines during the I-2RS operation. 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.

Therefore, while variances are observed in the updated NEF 25 contour when compared with the NEF 25 contour in the approved 3RS EIA Report, the updated NEF 25 contour does not encroach onto any new NSRs, confirming the representativeness of the aircraft noise impact assessment conducted at the 3RS EIA stage for the I-2RS operation. Furthermore, this also indicates that with the implementation of the noise mitigation measures planned and implemented for the I-2RS operation, no additional noise sensitive receivers would be subject to adverse environmental impact under the requirements of the EIAO-TM.

[2] The Government tabled in May 2023 before the Legislative Council (LegCo) the Environmental Impact Assessment Ordinance (Amendment of Schedules 2 and 3) Order 2023 and the revised Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM) to update the technical assessment guidelines. The amendments were passed by the LegCo in June 2023 and became effective since 30 June 2023. The aircraft noise standard in Annex 5 of the revised EIAO-TM has been updated to stipulate NEF 25 as the only noise criterion for all common uses listed as part of the above-mentioned Annex, as opposed to including NEF 30 for offices in the original EIAO-TM that was applicable during the 3RS EIA study stage.

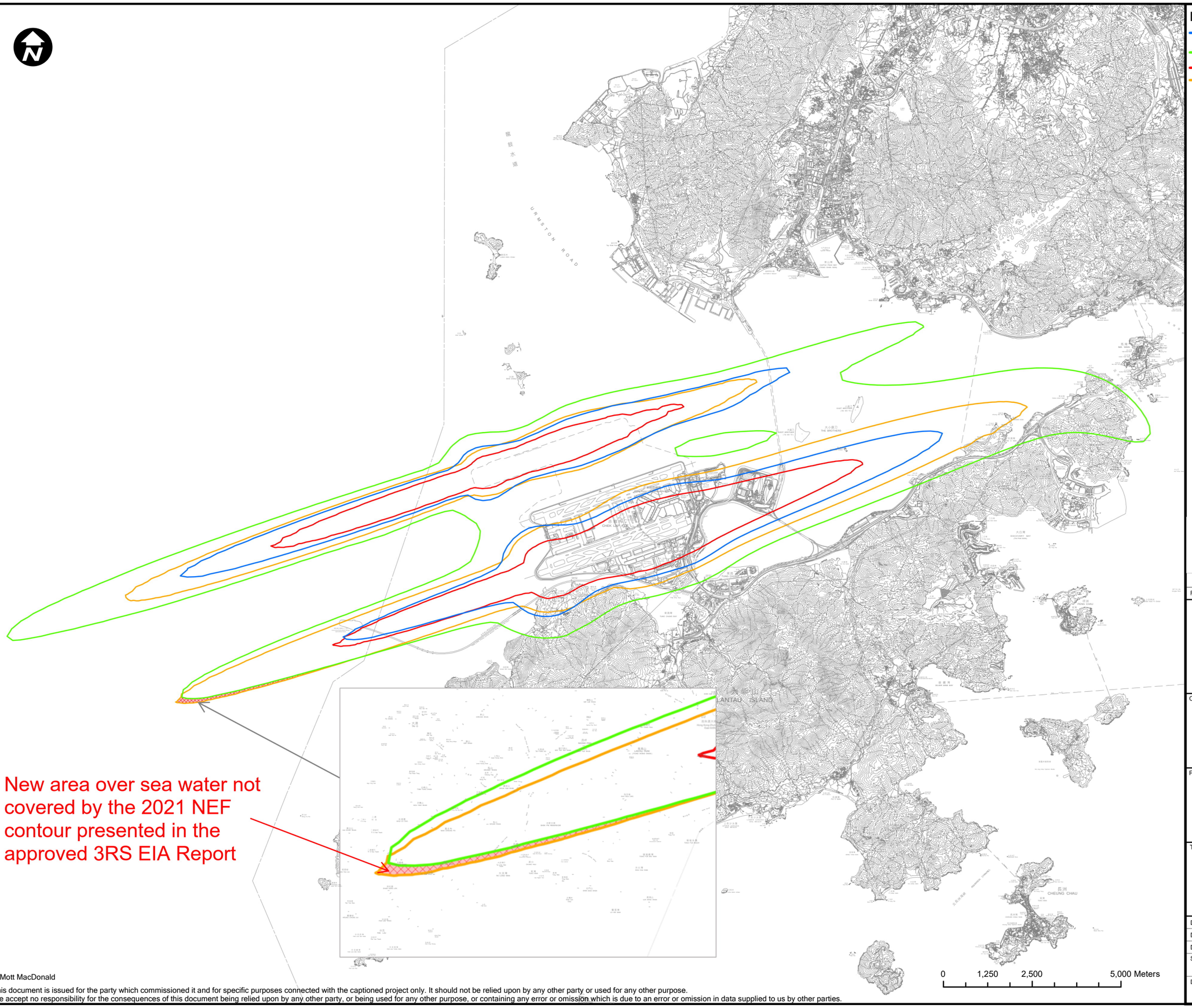
4 Conclusion

In accordance with the requirements set out in Section 4.1.3 of the Updated EM&A Manual, a prediction verification exercise has been carried out by comparing the updated NEF 25 contour generated based on actual airport operational data collected during the first full year of I-2RS operation with the predicted 2021 NEF 25 contour for the I-2RS operation presented in the approved 3RS EIA Report.

The comparison revealed that the updated NEF 25 contour for the first year of I-2RS operation is well within the 2021 NEF 25 contour predicted in the approved 3RS EIA Report except for one small section near the west end of the updated NEF 25 contour that is over sea water, thus not encroaching onto any new NSRs.

With consideration of the findings of the comparison, it can be concluded that the aircraft noise impact assessment conducted at the 3RS EIA stage for the I-2RS operation are representative. Besides, the aircraft noise mitigation measures planned and implemented for the I-2RS operation are considered effective in ensuring that no additional NSRs would be subject to adverse environmental impact under the requirements of the EIAO-TM.

Figures



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P1	NOV 2024	HL	FIRST ISSUE	ST	EC

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Project

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

Title

COMPARISON OF NEF CONTOURS

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Dwg check	EY		Approved	EC	
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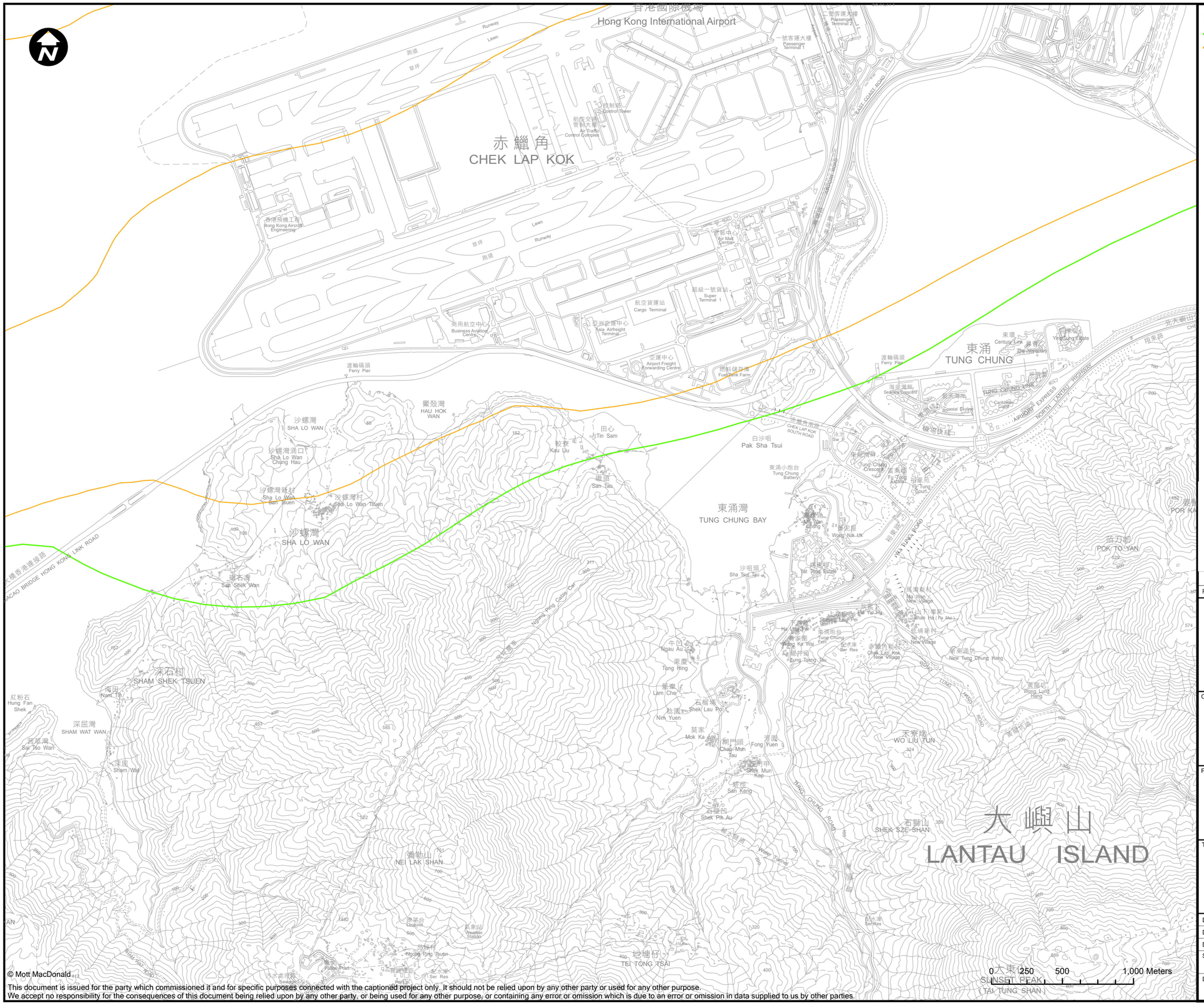
FIGURE 3.1



Legend

- 2021 NEF25 CONTOUR IN APPROVED 3RS EIA REPORT
- UPDATED NEF25 CONTOUR

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COMPARISON OF NEF CONTOURS (SHA LO WAN AND TUNG CHUNG AREAS)

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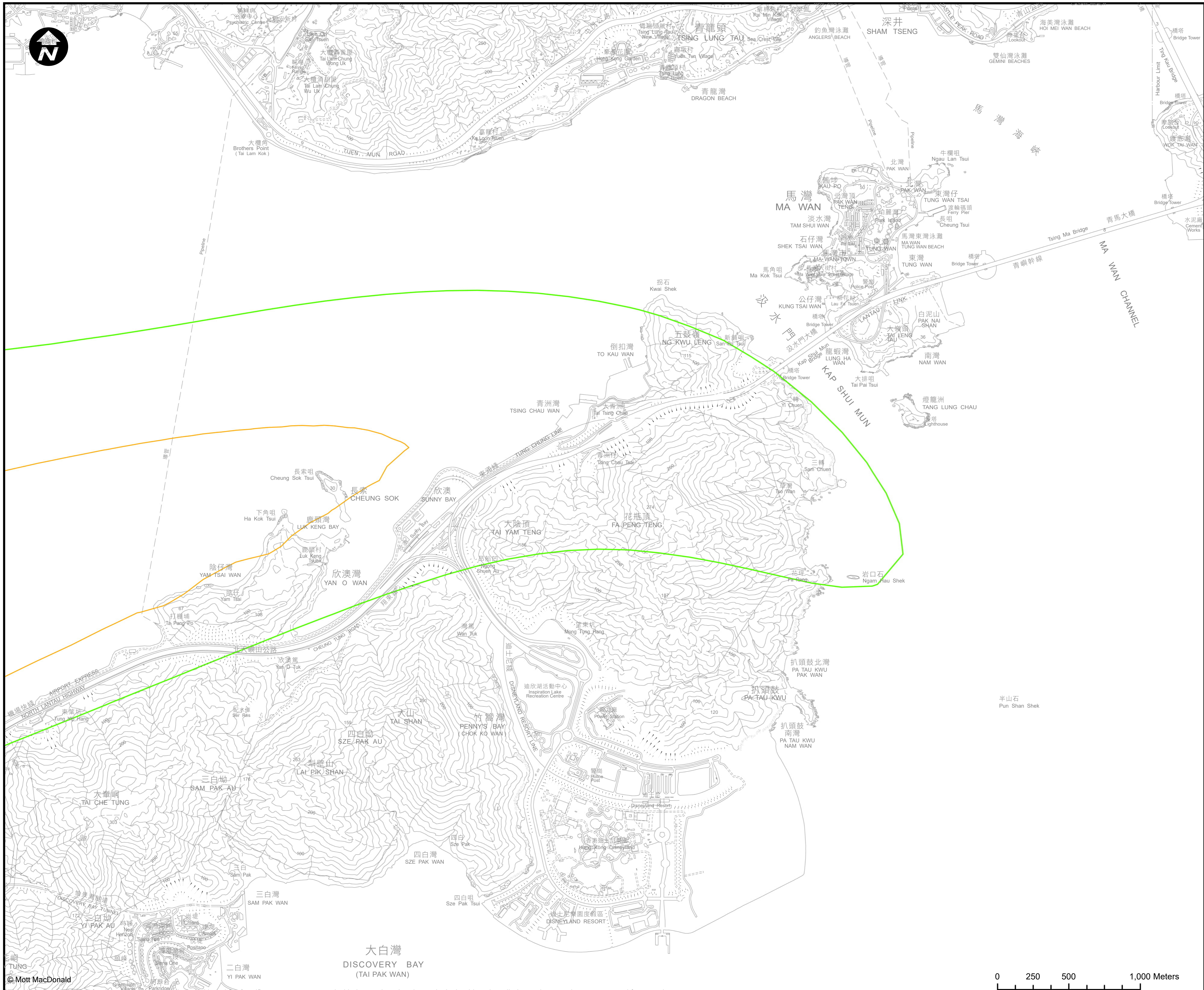
FIGURE 3.2



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Legend

- 2021 NEF25 CONTOUR IN APPROVED 3RS EIA REPORT
- UPDATED NEF25 CONTOUR

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

Title

COMPARISON OF NEF CONTOURS (MA WAN AND NORTHERN LANTAU AREAS)

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Dwg check	EY		Approved	EC

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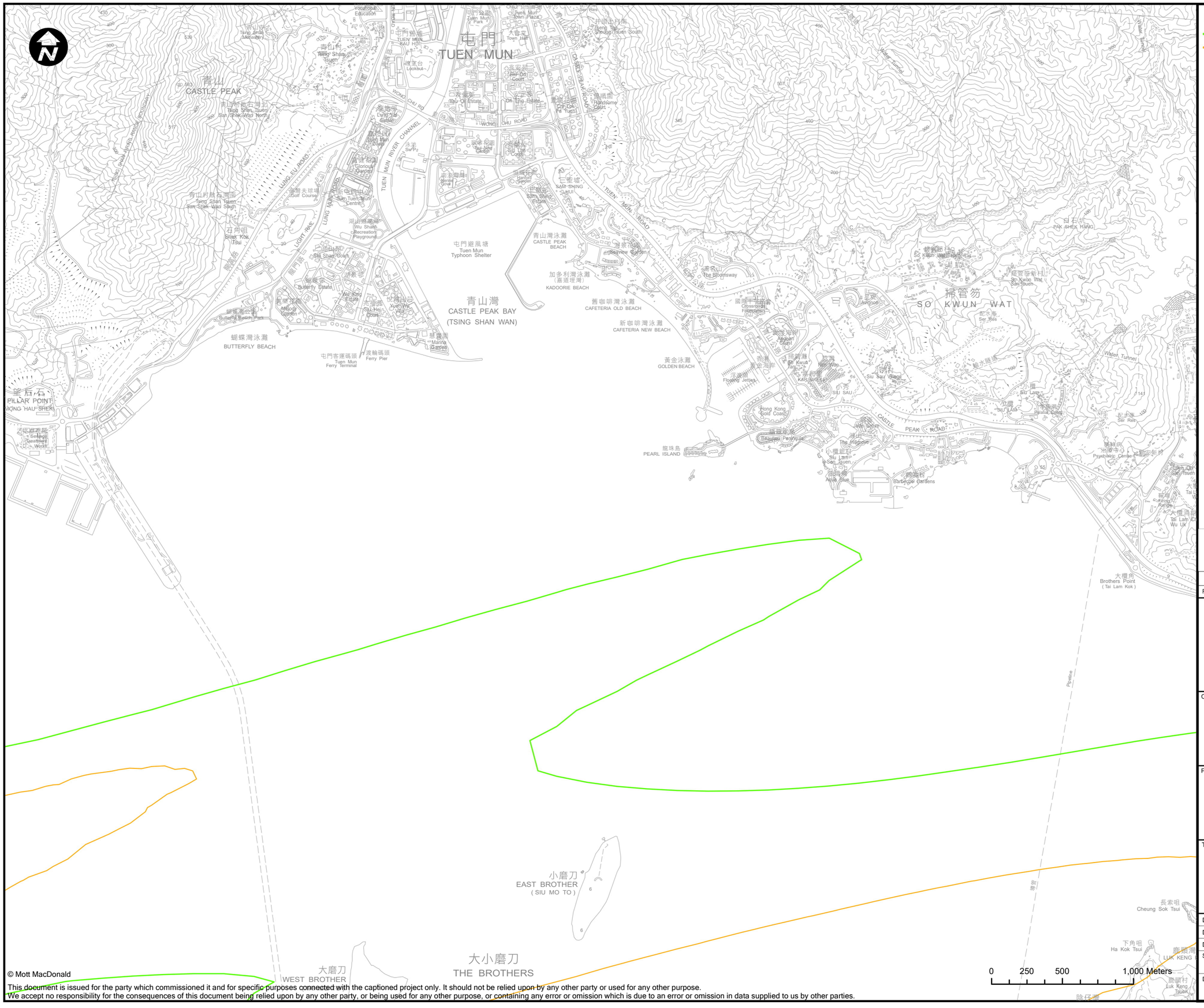
FIGURE 3.3



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Project

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

Title

COMPARISON OF NEF CONTOURS (SIU LAM AREA)

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FIGURE 3.4

Annex I

A.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 I-2RS operation. Further details of the aircraft noise modelling methodology agreed with EPD prior to the analysis are presented in the sections below.

A. 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.

In view of the above, the AEDT has been used for simulating NEF 25 contours required under Sections 4.1.3.2 and 4.1.5 of the Updated EM&A Manual and EPD's agreement has been sought prior to the analysis.

A.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 aircraft noise modelling in this Prediction Verification Report prepared for the first full year of the I-2RS operation was first undertaken using the latest available version 3e of AEDT in October 2023 once the relevant airport operational data for the first full year operation of the I-2RS operation became available. Following this, the FAA updated its AEDT model to version 3f in December 2023 and then to version 3g in August 2024. As a prudent approach in undertaking the aircraft noise analysis, the detailed aircraft noise modelling was revisited using the version 3f and then the latest version 3g of the AEDT model prior to finalising the report. Importantly,

the remodelling has confirmed that the findings and conclusions of the aircraft noise analysis remained consistent.

A.2 Aircraft Noise Modelling Process

A.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 A2.1** 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 I-2RS 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 I-2RS operation is 198,289 while the number of records in the database of processed radar data during the same period is 197,914. Therefore, the estimated scaling factor is 198,289 / 197,914, i.e., 1.001895.

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 I-2RS operation at HKIA, has been confirmed with CAD.

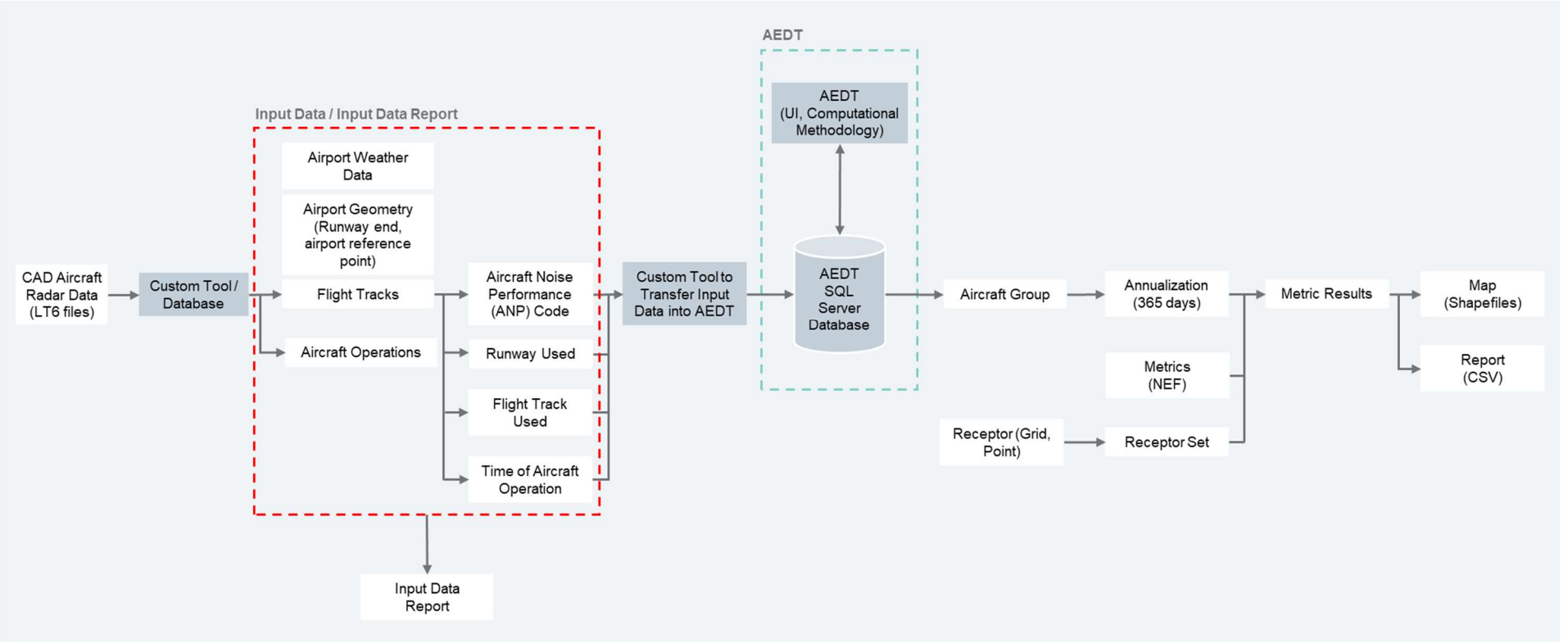
- Table B.1: Fleet Mix Arrival/ Departure Split
- Table B.2: Departure Stage Length Profile Number Distribution
- Table B.3: Arrivals Distribution Over Operational Period
- Table B.4: Departures Distribution Over Operational Period
- Table B.5: Arrivals Runway Utilization by Fleet Mix and Operational 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 I-2RS operation, are presented in **Tables B.3** to **B.8** in **Appendix B**. Among the operational time periods considered, there was the single runway operation within Night 4, Night 5 and Day 1 when one of the two runways had to be closed for runway maintenance works.

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, terrain data, and receptor set have also been defined as further illustrated in the sections below.

Figure A2.1: Aircraft Noise Modelling Process



A2.2 Runway Information

Table A2.1 summarizes the runway end coordinates that represent the start setting out points of TORA (Takeoff Run Available) used in the AEDT modelling. 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 co-ordinates, 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 A2.1: 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

A.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 A2.2** for the first year of I-2RS 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 8 July 2022 to 7 July 2023. This will ensure an accurate depiction of the conditions being modelled.

Table A2.2: Key Meteorological Data at HKIA from 8 July 2022 to 7 July 2023*

Month	Average Air Temperature (°C)	Average Relative Humidity (%)	Average Atmospheric Pressure (hPa)	Wind Speed (km/h)
Jul 22**	31.4	67.6	1007.0	13.4
Aug 22	29.4	76.5	1006.8	13.7
Sep 22	30.2	61.9	1008.6	14.6
Oct 22	26.7	56.9	1014.5	16.8
Nov 22	23.9	77.5	1014.9	15.2
Dec 22	16.1	58.2	1020.7	13.5
Jan 23	17.0	60.5	1020.7	13.4
Feb 23	19.5	66.1	1019.3	16.2

Month	Average Air Temperature (°C)	Average Relative Humidity (%)	Average Atmospheric Pressure (hPa)	Wind Speed (km/h)
Mar 23	21.8	68.7	1017.0	15.4
Apr 23	24.2	76.6	1012.0	17.1
May 23	27.3	75.0	1010.0	15.7
Jun 23	29.6	76.5	1006.5	12.9
Jul 23***	29.6	75.9	1008.5	13.8
12 months	**25.1**	**69.1**	**1012.8**	**14.7**

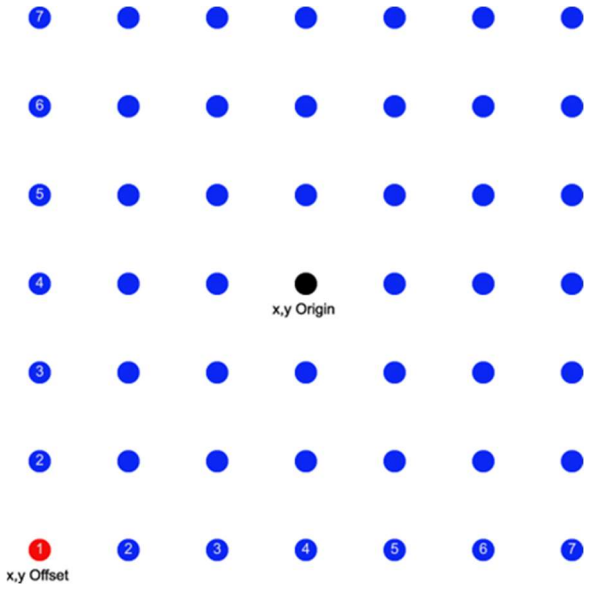
Notes:
* Daily data were used to calculate the averages.
** Averages calculated based on data from 8 to 31 July 2022.
*** Averages calculated based on data from 1 to 7 July 2023.

A.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 A2.2**, grid-type receptors are defined as individual receptors located at constant, defined spacings in a grid referencing a specified origin location.

The Digital Terrain Model of the entire Hong Kong Special Administrative Region available from the Lands Department[3] has been input to the AEDT model after conversion of the terrain data into the Gridfloat (FLT) file format that is compatible with the AEDT model. Based on previous experience, a grid spacing of approximately 760 feet (232 meters) produces adequate contours.

Figure A2.2: Conceptual Representation of an AEDT Grid Receptor



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

[3] Available at: https://data.gov.hk/en-data/dataset/hk-landsd-openmap-5m-grid-dtm/resource/620c4f4f-eac4-472f-9074-dffa2ad596fd

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.

A.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 3g) incorporates several updates to the database as described in the AEDT 3g 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 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 some aviation aircraft (e.g., A124 and DA42) that do not regularly operate at HKIA. The appropriate ANP aircraft have been identified for these airplanes in the aircraft noise analysis.

A.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.
- **Consistency**: the documented process provides a series of pre-determined activities that must be completed to develop the required 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.

Appendices

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
64-bit application				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
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 2022
BADA Family 3 aircraft performance model			X	X	X	X	X	X	X	X	X	X
BADA Family 4 aircraft performance model							X	X	X	X	X	X
Procedures with altitude controls			X	X	X	X	X	X	X	X	X	X
Procedures with speed controls, for BADA 4 only							X	X	X	X	X	X
Reduced thrust profiles and alternative weight profiles[1]							X	X	X	X	X	X
User-defined BADA 4 profiles							X	X	X	X	X	X
Runway to runway sensor path operations			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
Support for fixed-point profiles with BADA 4 performance model									X	X	X	X
Vertical pressure and temperature profiles that reflect atmospheric characteristics up to an elevation of 11km above sea level											X	X
Unified study for global/regional/airport analysis				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
Real-time status and logging	X	X		X	X	X	X	X	X	X	X	X
Distributed computing execution(not supported for dispersion modeling)			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
Integrated function for updating Study versions	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
Terrain, ambient, and weather references saved	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

[1] 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
Checking for study internal consistency	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
CSV import of tracks and aircraft operations										X	X	X
CSV import of runup operations												X
Conversion of INM and EDMS studies to ASIF format				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
ASIF partial study import	N/A	N/A	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
Metric results definitions as a more-flexible replacement for scenarios and cases				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
Copy-edit of scenarios/metric results definitions	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
Workflow (wizard) feature for editing operations					X	X	X	X	X	X	X	X
Workflow (wizard) feature for creating multiple operations (bulk create)						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
Display of all aircraft equipment available	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
Creation and editing of aircraft flight profiles	X	X		X	X	X	X	X	X	X	X	X
ASIF import of user-defined spectra									X	X	X	X
Editing of non-aircraft parameters		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
Editing of group percent distributions	X			X	X	X	X	X	X	X	X	X
Flights distributed across tracks using group percent[2]	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
Creation and editing of grid/receptor set	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
Population receptors for noise modeling	X		X									

[2] 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
Dynamic grid support (recursive grid in INM) for dB-based metrics	X			X	X	X	X	X	X	X	X	X
Dynamic grid support for time-based metrics						X	X	X	X	X	X	X
Dynamic grid support for user-defined noise metrics							X	X	X	X	X	X
Dynamic grid restricted by a boundary							X	X	X	X	X	X
Option to visualize the creation of dynamic grids on the map									X	X	X	X
Creation and editing of quarter-hourly/daily/monthly operational profiles		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
Usage of National Climatic Data Center (NCDC) ASOS weather sources		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
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
Usage of MERRA-2 and WRF weather						X	X	X	X	X	X	X
Apply weather at the metric result level						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
Airport and runway locations for tens of thousands of airports globally	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
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
Creation and editing of buildings for emissions dispersion modeling purposes[3]		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
Airport configuration assignment		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
Flight track – display all tracks on map	X		X	X	X	X	X	X	X	X	X	X
Flight track – display & edit selected tracks on map										X	X	X
Flight track – disperse point tracks	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
Flight track – point track creation by point-and-click	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
Taxi network graphical design		X		X	X	X	X	X	X	X	X	X

[3] AEDT supports creating and editing of building definitions, but it does not model downwash effects using EPA's Building Profile Input Program (BPIP) or Building Profile Input Program for PRIME (BPIPPRM)..

Function Availability	INM	EDMS	AEDT									
			2a	2b	2c	2d	3b	3c	3d	3e	3f	3g
Taxiway, taxipath, and airport configuration editing		X		X	X	X	X	X	X	X	X	X
Taxipath connectivity verification		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
Taxi delay and sequencing of operations		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)[4]		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
Modeling of scheduled aircraft operations	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
Modeling of operational profile operations for runup sources												X
Modeling of touch-and-go operations	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
Modeling of helicopter taxi operations				X	X	X	X	X	X	X	X	X
Noise modeling of runup operations	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
Map navigation tools (zoom, pan, rotate)	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
Graphical rendering of ESRI Shapefile layers	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
Export GIS layers to shapefiles	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
User-adjustable transparency on map layers				X	X	X	X	X	X	X	X	X
Last map location saved	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
Option to compute flight performance only			X	X	X	X	X	X	X	X	X	X
Track angle checking	X		X	X	X	X	X	X	X	X	X	X

[4] 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
Bank angle modeling	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
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
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
Non-volatile particulate matter (nvPM) particle mass and number calculated								X	X	X	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
Usage of USGS DEM terrain models for noise calculations	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
Usage of GeoTIFF terrain data for noise calculations									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
Visualization of missing terrain data	X											
Line-of-sight blockage modeling for noise metrics	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
Noise spectral cutoff calculation[5]	X			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
SAE ARP 5534 atmospheric absorption algorithm				X	X	X	X	X	X	X	X	X
A-weighted noise metrics	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
C-weighted noise metrics	X		X	X	X	X	X	X	X	X	X	X
Modeling of time-based noise metrics	X			X	X	X	X	X	X	X	X	X
Noise ambient data screening[6]	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
Restrict receptor grid by boundary					X	X	X	X	X	X	X	X

[5] In AEDT, this is addressed by the dynamic grid algorithm rather than pre-processing of aircraft source data as in INM.
[6] 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
Application of study boundary to limit the area covered by contour grid calculations	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
Number above noise level for LAMAX, LCMAX, SEL, and CEXP					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
Combine noise results from different receptor sets						X	X	X	X	X	X	X
Noise table reports	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
Non-closing noise contours	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
Noise ranking and flight track reassignment of aircraft operations for change analysis			X	X	X	X	X	X	X	X	X	X
Comprehensive input parameter report	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
Aircraft flight profile and performance graphs	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
Emissions inventory reporting (segment to modal)		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
VALE emissions reporting		X		X	X	X	X	X	X	X	X	X
Greenhouse gas calculations for APUs, GSE, stationary sources and MOVES import											X	X
AERMOD & AERMET version	N/A	12345	N/A	14134	16216	16216	18081	19191	19191	21112	23132	23132
Emissions dispersion table reports		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
Carbon dioxide, water, and particulate matter speciation for aircraft engines[7]		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
Pollutant concentration contours					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
Emissions dispersion of aircraft operations on curved flight tracks				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
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

[7] 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
Emissions dispersion of runup operations											X	X
Running multiple pollutants at once in dispersion modeling									X	X	X	X
Background emissions concentrations					X	X	X	X	X	X	X	X
PM2.5 dispersion modeling without NAAQS restriction											X	X
SO_2 dispersion modeling using Tier 1 method							X	X	X	X	X	X
NO_2 dispersion modeling using Tier 1, Tier 2 and Tier 3 methods							X	X	X	X	X	X
NO_2 dispersion modeling using AERMOD Aircraft Thrust Specific In-Stack NO_2/NOx Ratios										X	X	X
AERMOD, Urban Population option										X	X	X
AERMOD, ALPHA and BETA options for conversion of NO_X to NO_2										X	X	X
AERMOD, ALPHA option for Low Wind Parameters										X	X	X
AERMOD, ALPHA option for Plume Rise											X	X
AERMOD, ALPHA option for Area Plume Meander											X	X
Aircraft source characterization as volume sources for dispersion modeling											X	X
Support for 1-minute and 5-minute ASOS wind data for dispersion modeling							X	X	X	X	X	X
Low wind speed support (ADJ_U* option in AERMET)							X	X	X	X	X	X
Interface to EPA's AERSURFACE utility									X	X	X	X
Environmental justice population identification					X	X	X	X	X	X	X	X
Environmental justice Limited English proficiency							X	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	9.0171	9.0171
A19N	A319-131	Airbus A319-131/V2522-A5	12.0227	13.0246
A20N	A320-270N	A320-271N/PW1127G-JM with mod160734 engines	3897.3706	3854.2891
A21N	A321-232	Airbus A321-232/IAE V2530-A5	3034.7392	3020.7127
A306	A300-622R	Airbus A300-622R/PW4158	2098.9695	2114.9998
A318	A319-131	Airbus A319-131/V2522-A5	20.0379	20.0379
A319	A319-131	Airbus A319-131/V2522-A5	107.2027	109.2065
A320	A320-232	Airbus A320-232/V2527-A5	7154.5305	7200.6176
A321	A321-232	Airbus A321-232/IAE V2530-A5	4041.6435	4043.6473
A332	A330-343	Airbus A330-343/RR Trent 772B	4476.4658	4479.4715
A333	A330-343	Airbus A330-343/RR Trent 772B	14840.0652	14809.0064
A339	A330-343	Airbus A330-343/RR Trent 772B	383.7257	385.7295
A342	A340-211	Airbus A340-211/CFM56-5C2	1.0019	1.0019
A343	A340-211	Airbus A340-211/CFM56-5C2	404.7655	405.7674
A346	A340-642	Airbus A340-642/RR Trent 556	109.2065	108.2046
A359	A350-941	A350-941\RR trent XWB-84	7445.0800	7458.1046
A35K	A350-941	A350-941\RR trent XWB-84	4201.9466	4208.9599
A388	A380-841	Airbus A380-841/RR Trent 970	664.2562	661.2505
ASTR	IA1125	IAI-1125 ASTRA/TFE731-3A	6.0114	6.0114
B38M	7378MAX	7378MAX\CFMLEap1B27	27.0512	29.0549
B733	737300	Boeing 737-300/CFM56-3B-1	16.0303	16.0303
B734	737400	Boeing 737-400/CFM56-3C-1	408.7731	412.7806
B737	737300	Boeing 737-300/CFM56-3B-1	45.0853	46.0872
B738	737800	Boeing 737-800/CFM56-7B26	4414.3483	4403.3275
B739	737800	Boeing 737-800/CFM56-7B26	2.0038	2.0038
B742	74720B	Boeing 747-200/JT9D-7Q	5.0095	5.0095
B744	747400	Boeing 747-400/PW4056	7443.0762	7452.0932
B748	7478	Boeing 747-8F / Genx-2B67	6537.3633	6549.3860
B752	757RR	Boeing 757-200/RB211-535E4	65.1232	65.1232
B762	767CF6	Boeing 767-200/CF6-80A	455.8621	456.8640
B763	7673ER	Boeing 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	2077.9297	2070.9165
B764	767400	Boeing 767-400ER/CF6-80C2B(F)	14.0265	13.0246
B772	777200	Boeing 777-200/GE90-76B	154.2918	159.3013
B773	777300	Boeing 777-300/Trent 892	1133.1430	1129.1354
B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	8965.9562	8977.9789
B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	6881.0132	6879.0094
B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	1215.2983	1220.3078
B789	7879	Boeing 787-9/GEnx-1B76A/P2	2398.5361	2391.5228
B78X	7879	Boeing 787-9/GEnx-1B76A/P2	780.4760	783.4817
C25C	CIT3	Cessna Citation III/TFE731-3-100S	41.0777	42.0796
C510	ECLIPSE500	Eclipse 500 / PW610F	1.0019	1.0019
C560	CNA55B	Cessna 550 Citation Bravo/PW530A	10.0189	7.0133
C56X	CNA55B	Cessna 550 Citation Bravo/PW530A	8.0152	7.0133
C680	CNA680	Cessna Citation Sovereign 680 / PW306C	1.0019	1.0019

ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description	Arrivals	Departures
C68A	CNA680	Cessna Citation Sovereign 680 / PW306C	1.0019	1.0019
CL30	CL600	Canadair CL-600/ALF502L	2.0038	2.0038
CL35	CL600	Canadair CL-600/ALF502L	57.1080	57.1080
CL60	CL601	Canadair CL-601/CF34-3A	400.7579	573.0838
CRJ2	CL601	Canadair CL-601/CF34-3A	94.1781	95.1800
DA42	BEC58P	Raytheon BARON 58P/TS10-520-L	9.0171	25.0474
E135	EMB145	Embraer 145 ER / Allison AE3007	8.0152	8.0152
E190	EMB190	ERJ190-100	6.0114	6.0114
E35L	EMB145	Embraer 145 ER / Allison AE3007	3.0057	3.0057
E550	CL600	Canadair CL-600/ALF502L	5.0095	7.0133
E55P	CL600	Canadair CL-600/ALF502L	1.0019	1.0019
F2TH	CL600	Canadair CL-600/ALF502L	32.0606	32.0606
F900	FAL900EX	FAL900EX\TFE731-60	16.0303	17.0322
FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	81.1535	81.1535
FA8X	GIV	Gulfstream GIV-SP/TAY 611-8	22.0417	22.0417
G150	IA1125	IAI-1125 ASTRA/TFE731-3A	7.0133	7.0133
G280	CL600	Canadair CL-600/ALF502L	10.0189	10.0189
GA5C	GV	Gulfstream GV/BR 710	4.0076	4.0076
GA6C	GV	Gulfstream GV/BR 710	43.0815	46.0872
GA7C	G650ER	G650ER\BR-700-725A1-12	1.0019	1.0019
GALX	CL600	Canadair CL-600/ALF502L	7.0133	7.0133
GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	119.2255	119.2255
GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	239.4528	239.4528
GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	500.9474	504.9550
GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	228.4320	225.4263
GLF5	GV	Gulfstream GV/BR 710	239.4528	236.4472
GLF6	G650ER	G650ER\BR-700-725A1-12	671.2695	705.3339
H25B	LEAR35	Learjet 36/TFE731-2	25.0474	25.0474
HA4T	CL600	Canadair CL-600/ALF502L	1.0019	1.0019
LJ45	LEAR35	Learjet 36/TFE731-2	2.0038	2.0038
LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A	7.0133	7.0133
MD11	MD11PW	McDonnell Douglas MD-11/PW 4460	165.3126	168.3183
			99,019	99,270
			198,289	

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 3g 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	3.0057	6.0114					
A19N	A319-131	Airbus A319-131/V2522-A5		9.0171	1.0019			1.0019	1.0019
A20N	A320-270N	A320-271N/PW1127G-JM with mod160734 engines	6.0114	2994.6634	184.3486	206.3903	324.6139	154.2918	27.0512
A21N	A321-232	Airbus A321-232/IAE V2530-A5	36.0682	2747.1954	133.2520	83.1573	24.0455	4.0076	7.0133
A306	A300-622R	Airbus A300-622R/PW4158	96.1819	145.2747	26.0493	261.4945	989.8720	541.0232	39.0739
A318	A319-131	Airbus A319-131/V2522-A5		18.0341	2.0038				
A319	A319-131	Airbus A319-131/V2522-A5		103.1952	2.0038	1.0019		1.0019	
A320	A320-232	Airbus A320-232/V2527-A5	112.2122	5668.7206	151.2861	380.7200	160.3032	530.0023	151.2861
A321	A321-232	Airbus A321-232/IAE V2530-A5	28.0531	3115.8927	184.3486	393.7446	110.2084	162.3070	47.0891
A332	A330-343	Airbus A330-343/RR Trent 772B	219.4150	2199.1590	145.2747	137.2596	305.5779	1113.1051	356.6745
A333	A330-343	Airbus A330-343/RR Trent 772B	238.4510	10445.7548	1231.3287	393.7446	1011.9137	1020.9308	497.9417
A339	A330-343	Airbus A330-343/RR Trent 772B	65.1232	306.5798	5.0095	1.0019			6.0114
A342	A340-211	Airbus A340-211/CFM56-5C2		1.0019					
A343	A340-211	Airbus A340-211/CFM56-5C2	7.0133	388.7352				3.0057	6.0114
A346	A340-642	Airbus A340-642/RR Trent 556		107.2027				2.0038	
A359	A350-941	A350-941\RR trent XWB-84	264.5002	5396.2052	373.7067	238.4510	33.0625	160.3032	978.8512
A35K	A350-941	A350-941\RR trent XWB-84	480.9095	2383.5076	242.4585	52.0985	8.0152	316.5987	718.3585
A388	A380-841	Airbus A380-841/RR Trent 970		613.1596	49.0928	1.0019	1.0019		

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)
ASTR	IA1125	IAI-1125 ASTRA/TFE731-3A		5.0095		1.0019			
B38M	7378MAX	7378MAX\CFMLEap1B27		27.0512					
B733	737300	Boeing 737-300/CFM56-3B-1	1.0019	13.0246					2.0038
B734	737400	Boeing 737-400/CFM56-3C-1	16.0303	163.3088	3.0057	73.1383	12.0227	21.0398	120.2274
B737	737300	Boeing 737-300/CFM56-3B-1	1.0019	44.0834					
B738	737800	Boeing 737-800/CFM56-7B26	30.0568	3492.6051	147.2785	183.3467	44.0834	450.8526	66.1251
B739	737800	Boeing 737-800/CFM56-7B26		2.0038					
B742	74720B	Boeing 747-200/JT9D-7Q		5.0095					
B744	747400	Boeing 747-400/PW4056	471.8924	4453.4222	179.3392	165.3126	153.2899	1137.1506	882.6693
B748	7478	Boeing 747-8F / Genx-2B67	272.5154	3953.4767	255.4832	351.6651	429.8129	950.7981	323.6120
B752	757RR	Boeing 757-200/RB211-535E4	4.0076	35.0663	2.0038	3.0057		19.0360	2.0038
B762	767CF6	Boeing 767-200/CF6-80A	62.1175	119.2255	1.0019	10.0189	66.1251	192.3638	5.0095
B763	7673ER	Boeing 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	74.1402	793.5006	157.2975	39.0739	267.5059	658.2449	88.1667
B764	767400	Boeing 767-400ER/CF6-80C2B(F)	1.0019	8.0152	4.0076				1.0019
B772	777200	Boeing 777-200/GE90-76B	3.0057	130.2463	12.0227	3.0057	1.0019	2.0038	3.0057
B773	777300	Boeing 777-300/Trent 892		955.8076	131.2482	9.0171	3.0057	4.0076	30.0568
B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	269.5097	4346.2195	214.4055	333.6310	571.0800	2704.1140	526.9966
B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	525.9947	4797.0721	462.8754	185.3505	43.0815	118.2236	748.4154
B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	2.0038	950.7981	160.3032	40.0758	5.0095		57.1080
B789	7879	Boeing 787-9/GEnx-1B76A/P2	44.0834	1775.3575	259.4907	174.3297	89.1686	16.0303	40.0758
B78X	7879	Boeing 787-9/GEnx-1B76A/P2	1.0019	673.2733	1.0019	88.1667			17.0322
C25C	CIT3	Cessna Citation III/TFE731-3-100S		40.0758		1.0019			
C510	ECLIPSE500	Eclipse 500 / PW610F		1.0019					
C560	CNA55B	Cessna 550 Citation Bravo/PW530A		10.0189					
C56X	CNA55B	Cessna 550 Citation Bravo/PW530A		8.0152					
C680	CNA680	Cessna Citation Sovereign 680 / PW306C		1.0019					
C68A	CNA680	Cessna Citation Sovereign 680 / PW306C		1.0019					
CL30	CL600	Canadair CL-600/ALF502L		2.0038					

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)
CL35	CL600	Canadair CL-600/ALF502L		51.0966	3.0057	2.0038		1.0019	
CL60	CL601	Canadair CL-601/CF34-3A	2.0038	381.7219	7.0133	1.0019	4.0076	2.0038	3.0057
CRJ2	CL601	Canadair CL-601/CF34-3A	2.0038	85.1611	2.0038		3.0057	2.0038	
DA42	BEC58P	Raytheon BARON 58P/TS10-520-L		9.0171					
E135	EMB145	Embraer 145 ER / Allison AE3007		6.0114	1.0019		1.0019		
E190	EMB190	ERJ190-100		4.0076		1.0019	1.0019		
E35L	EMB145	Embraer 145 ER / Allison AE3007		2.0038	1.0019				
E550	CL600	Canadair CL-600/ALF502L	1.0019	4.0076					
E55P	CL600	Canadair CL-600/ALF502L		1.0019					
F2TH	CL600	Canadair CL-600/ALF502L		31.0587			1.0019		
F900	FAL900 EX	FAL900EX\TFE731-60		11.0208	1.0019		4.0076		
FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	2.0038	69.1307	3.0057	2.0038		3.0057	2.0038
FA8X	GIV	Gulfstream GIV-SP/TAY 611-8		19.0360		1.0019		2.0038	
G150	IA1125	IAI-1125 ASTRA/TFE731-3A		7.0133					
G280	CL600	Canadair CL-600/ALF502L		10.0189					
GA5C	GV	Gulfstream GV/BR 710		4.0076					
GA6C	GV	Gulfstream GV/BR 710		39.0739	2.0038			1.0019	1.0019
GA7C	G650ER	G650ER\BR-700-725A1-12		1.0019					
GALX	CL600	Canadair CL-600/ALF502L		7.0133					
GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	1.0019	93.1762	6.0114	7.0133	5.0095	5.0095	2.0038
GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	4.0076	199.3771	13.0246	8.0152	3.0057	9.0171	3.0057
GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	5.0095	411.7787	21.0398	14.0265	16.0303	20.0379	13.0246
GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	3.0057	192.3638	11.0208	8.0152	8.0152	5.0095	1.0019
GLF5	GV	Gulfstream GV/BR 710	7.0133	205.3884	7.0133	4.0076	4.0076	6.0114	6.0114
GLF6	G650ER	G650ER\BR-700-725A1-12	9.0171	560.0592	34.0644	19.0360	11.0208	21.0398	17.0322
H25B	LEAR35	Learjet 36/TFE731-2	1.0019	23.0436				1.0019	
HA4T	CL600	Canadair CL-600/ALF502L		1.0019					
LJ45	LEAR35	Learjet 36/TFE731-2		2.0038					
LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A	1.0019	6.0114					

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)
MD11	MD11PW	McDonnell Douglas MD-11/PW 4460	2.0038	94.1781	3.0057	5.0095	3.0057	47.0891	11.0208
			3,376	65,987	4,837	3,883	4,718	10,409	5,809
			99,019						

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		9.0171					
A19N	A319-131	Airbus A319-131/V2522-A5		12.0227					1.0019
A20N	A320-270N	A320-271N/PW1127G-JM with mod160734 engines	346.6556	3270.1845	121.2293	24.0455	3.0057	73.1383	16.0303
A21N	A321-232	Airbus A321-232/IAE V2530-A5	132.2501	2660.0306	127.2406	38.0720	45.0853	18.0341	
A306	A300-622R	Airbus A300-622R/PW4158	12.0227	531.0042	12.0227	1.0019	72.1364	1359.5712	127.2406
A318	A319-131	Airbus A319-131/V2522-A5		19.0360			1.0019		
A319	A319-131	Airbus A319-131/V2522-A5		105.1989	1.0019			2.0038	1.0019
A320	A320-232	Airbus A320-232/V2527-A5	214.4055	6494.2818	121.2293	45.0853	15.0284	301.5703	9.0171
A321	A321-232	Airbus A321-232/IAE V2530-A5	347.6575	3239.1258	117.2217	146.2766	169.3202	23.0436	1.0019
A332	A330-343	Airbus A330-343/RR Trent 772B	190.3600	2388.5171	82.1554	133.2520	90.1705	1238.3419	356.6745
A333	A330-343	Airbus A330-343/RR Trent 772B	344.6518	11363.4904	492.9322	319.6044	220.4168	1994.7725	73.1383
A339	A330-343	Airbus A330-343/RR Trent 772B	2.0038	363.6878	10.0189	6.0114	3.0057	1.0019	
A342	A340-211	Airbus A340-211/CFM56-5C2		1.0019					
A343	A340-211	Airbus A340-211/CFM56-5C2	2.0038	8.0152	49.0928	191.3619	131.2482	21.0398	3.0057
A346	A340-642	Airbus A340-642/RR Trent 556	2.0038	6.0114		85.1611	10.0189	5.0095	
A359	A350-941	A350-941\RR trent XWB-84	121.2293	6096.5296	161.3051	106.2008	277.5248	694.3131	1.0019
A35K	A350-941	A350-941\RR trent XWB-84	1.0019	2330.4072	64.1213	432.8185	850.6087	525.9947	4.0076
A388	A380-841	Airbus A380-841/RR Trent 970		518.9815	26.0493		62.1175	54.1023	
ASTR	IA1125	IAI-1125 ASTRA/TFE731-3A	1.0019	5.0095					
B38M	7378MAX	7378MAX\CFMLEap1B27	1.0019	28.0531					
B733	737300	Boeing 737-300/CFM56-3B-1	1.0019	15.0284					

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)
B734	737400	Boeing 737-400/CFM56-3C-1	82.1554	189.3581		3.0057	30.0568	104.1971	4.0076
B737	737300	Boeing 737-300/CFM56-3B-1	2.0038	43.0815	1.0019				
B738	737800	Boeing 737-800/CFM56-7B26	52.0985	3650.9045	16.0303	14.0265	17.0322	566.0705	87.1648
B739	737800	Boeing 737-800/CFM56-7B26		2.0038					
B742	74720B	Boeing 747-200/JT9D-7Q		5.0095					
B744	747400	Boeing 747-400/PW4056	962.8209	5842.0483	135.2558	86.1629	83.1573	285.5400	57.1080
B748	7478	Boeing 747-8F / Genx-2B67	278.5267	3554.7226	216.4093	293.5552	412.7806	1400.6489	392.7427
B752	757RR	Boeing 757-200/RB211-535E4	2.0038	21.0398		13.0246	7.0133	9.0171	13.0246
B762	767CF6	Boeing 767-200/CF6-80A	3.0057	178.3373	1.0019	9.0171		248.4699	17.0322
B763	7673ER	Boeing 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	42.0796	1043.9743	40.0758	14.0265	6.0114	404.7655	519.9834
B764	767400	Boeing 767-400ER/CF6-80C2B(F)	4.0076	8.0152			1.0019		
B772	777200	Boeing 777-200/GE90-76B	2.0038	123.2331	11.0208	3.0057	10.0189	8.0152	2.0038
B773	777300	Boeing 777-300/Trent 892	243.4604	870.6465				12.0227	3.0057
B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	805.5234	3988.5430	738.3964	227.4301	118.2236	1595.0165	1504.8459
B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	45.0853	5019.4927	273.5173	708.3396	447.8470	380.7200	4.0076
B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert		809.5310	32.0606	70.1326	198.3752	109.2065	1.0019
B789	7879	Boeing 787-9/GEnx-1B76A/P2	17.0322	1400.6489	97.1838	302.5722	112.2122	461.8735	
B78X	7879	Boeing 787-9/GEnx-1B76A/P2	9.0171	681.2884	3.0057		73.1383	17.0322	
C25C	CIT3	Cessna Citation III/TFE731-3-100S		39.0739	1.0019				2.0038
C510	ECLIPSE500	Eclipse 500 / PW610F		1.0019					
C560	CNA55B	Cessna 550 Citation Bravo/PW530A	3.0057	4.0076					
C56X	CNA55B	Cessna 550 Citation Bravo/PW530A		6.0114				1.0019	
C680	CNA680	Cessna Citation Sovereign 680 / PW306C		1.0019					
C68A	CNA680	Cessna Citation Sovereign 680 / PW306C		1.0019					
CL30	CL600	Canadair CL-600/ALF502L		2.0038					
CL35	CL600	Canadair CL-600/ALF502L	2.0038	49.0928				2.0038	4.0076
CL60	CL601	Canadair CL-601/CF34-3A	9.0171	553.0459	3.0057	1.0019		3.0057	4.0076
CRJ2	CL601	Canadair CL-601/CF34-3A	2.0038	89.1686		1.0019		1.0019	2.0038

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)
DA42	BEC58P	Raytheon BARON 58P/TS10-520-L	2.0038	23.0436					
E135	EMB145	Embraer 145 ER / Allison AE3007		7.0133	1.0019				
E190	EMB190	ERJ190-100		5.0095		1.0019			
E35L	EMB145	Embraer 145 ER / Allison AE3007		2.0038		1.0019			
E550	CL600	Canadair CL-600/ALF502L		6.0114			1.0019		
E55P	CL600	Canadair CL-600/ALF502L		1.0019					
F2TH	CL600	Canadair CL-600/ALF502L	1.0019	30.0568		1.0019			
F900	FAL900EX	FAL900EX\TFE731-60	1.0019	11.0208		3.0057		2.0038	
FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	6.0114	62.1175	5.0095	2.0038	1.0019	2.0038	3.0057
FA8X	GIV	Gulfstream GIV-SP/TAY 611-8		20.0379	1.0019			1.0019	
G150	IA1125	IAI-1125 ASTRA/TFE731-3A		7.0133					
G280	CL600	Canadair CL-600/ALF502L		10.0189					
GA5C	GV	Gulfstream GV/BR 710		2.0038	1.0019				1.0019
GA6C	GV	Gulfstream GV/BR 710	1.0019	40.0758	1.0019	1.0019		3.0057	
GA7C	G650ER	G650ER\BR-700-725A1-12		1.0019					
GALX	CL600	Canadair CL-600/ALF502L		7.0133					
GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	3.0057	105.1989	4.0076	2.0038	2.0038	1.0019	2.0038
GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	6.0114	201.3808	6.0114	6.0114	4.0076	10.0189	6.0114
GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	15.0284	444.8413	8.0152	9.0171	5.0095	9.0171	14.0265
GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	2.0038	203.3846	6.0114	2.0038		7.0133	5.0095
GLF5	GV	Gulfstream GV/BR 710	7.0133	195.3695	3.0057	15.0284	8.0152	4.0076	4.0076
GLF6	G650ER	G650ER\BR-700-725A1-12	13.0246	605.1444	14.0265	16.0303	16.0303	32.0606	9.0171
H25B	LEAR35	Learjet 36/TFE731-2		23.0436				2.0038	
HA4T	CL600	Canadair CL-600/ALF502L		1.0019					
LJ45	LEAR35	Learjet 36/TFE731-2		2.0038					
LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A		5.0095	1.0019			1.0019	
MD11	MD11PW	McDonnell Douglas MD-11/PW 4460	1.0019	105.1989	11.0208	27.0512	3.0057	18.0341	3.0057
			4,344	69,768	3,017	3,361	3,508	12,014	3,258
			99,270						

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	1.0019				2.0038	
Day 1	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines	4.0076	2.0038				
Day 1	A21N	A321-232	Airbus A321-232/IAE V2530-A5	22.0417	8.0152			5.0095	1.0019
Day 1	A306	A300-622R	Airbus A300-622R/PW4158	68.1288	2.0038			24.0455	2.0038
Day 1	A320	A320-232	Airbus A320-232/V2527-A5	77.1459	21.0398			13.0246	1.0019
Day 1	A321	A321-232	Airbus A321-232/IAE V2530-A5	10.0189	2.0038			14.0265	2.0038
Day 1	A332	A330-343	Airbus A330-343/RR Trent 772B	111.2103	12.0227			75.1421	21.0398
Day 1	A333	A330-343	Airbus A330-343/RR Trent 772B	128.2425	17.0322			77.1459	16.0303
Day 1	A339	A330-343	Airbus A330-343/RR Trent 772B	22.0417	1.0019			36.0682	6.0114
Day 1	A343	A340-211	Airbus A340-211/CFM56-5C2	1.0019	1.0019			3.0057	2.0038
Day 1	A359	A350-941	A350-941\RR trent XWB-84	151.2861	22.0417			81.1535	10.0189
Day 1	A35K	A350-941	A350-941\RR trent XWB-84	237.4491	26.0493			180.3411	37.0701
Day 1	B733	737300	Boeing 737-300/CFM56-3B-1	1.0019					
Day 1	B734	737400	Boeing 737-400/CFM56-3C-1	3.0057	1.0019			6.0114	6.0114
Day 1	B737	737300	Boeing 737-300/CFM56-3B-1		1.0019				
Day 1	B738	737800	Boeing 737-800/CFM56-7B26	12.0227	2.0038			14.0265	2.0038
Day 1	B744	747400	Boeing 747-400/PW4056	227.4301	31.0587			191.3619	22.0417
Day 1	B748	7478	Boeing 747-8F / Genx-2B67	134.2539	18.0341			98.1857	22.0417
Day 1	B752	757RR	Boeing 757-200/RB211-535E4	2.0038				2.0038	
Day 1	B762	767CF6	Boeing 767-200/CF6-80A	25.0474				28.0531	9.0171
Day 1	B763	7673ER	Boeing 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	24.0455	3.0057			41.0777	6.0114
Day 1	B764	767400	Boeing 767-400ER/CF6-80C2B(F)	1.0019					
Day 1	B772	777200	Boeing 777-200/GE90-76B	2.0038				1.0019	
Day 1	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	150.2842	24.0455			79.1497	16.0303
Day 1	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	312.5912	49.0928			143.2710	21.0398
Day 1	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	2.0038					
Day 1	B789	7879	Boeing 787-9/GEnx-1B76A/P2	4.0076	1.0019			28.0531	11.0208

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	B78X	7879	Boeing 787-9/GEnx-1B76A/P2						1.0019
Day 1	CL60	CL601	Canadair CL-601/CF34-3A	2.0038					
Day 1	CRJ2	CL601	Canadair CL-601/CF34-3A	1.0019					1.0019
Day 1	E550	CL600	Canadair CL-600/ALF502L	1.0019					
Day 1	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8					1.0019	1.0019
Day 1	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business					1.0019	
Day 1	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	2.0038	1.0019			1.0019	
Day 1	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	3.0057				1.0019	1.0019
Day 1	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	3.0057					
Day 1	GLF5	GV	Gulfstream GV/BR 710	4.0076				2.0038	1.0019
Day 1	GLF6	G650ER	G650ER\BR-700-725A1-12	8.0152				1.0019	
Day 1	H25B	LEAR35	Learjet 36/TFE731-2	1.0019					
Day 1	LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A					1.0019	
Day 1	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460					1.0019	1.0019
Day 2	A124	74720B	Boeing 747-200/JT9D-7Q	3.0057				1.0019	2.0038
Day 2	A19N	A319-131	Airbus A319-131/V2522-A5	6.0114	3.0057				
Day 2	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines	1897.5887	875.6560			150.2842	71.1345
Day 2	A21N	A321-232	Airbus A321-232/IAE V2530-A5	1753.3158	786.4874			114.2160	93.1762
Day 2	A306	A300-622R	Airbus A300-622R/PW4158	81.1535	9.0171			38.0720	17.0322
Day 2	A318	A319-131	Airbus A319-131/V2522-A5	13.0246	2.0038			3.0057	
Day 2	A319	A319-131	Airbus A319-131/V2522-A5	51.0966	46.0872			3.0057	3.0057
Day 2	A320	A320-232	Airbus A320-232/V2527-A5	3543.7018	2010.8028			81.1535	33.0625
Day 2	A321	A321-232	Airbus A321-232/IAE V2530-A5	2005.7933	976.8474			100.1895	33.0625
Day 2	A332	A330-343	Airbus A330-343/RR Trent 772B	1277.4158	535.0118			239.4528	147.2785
Day 2	A333	A330-343	Airbus A330-343/RR Trent 772B	6160.6509	2853.3963			833.5764	598.1312

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	A339	A330-343	Airbus A330-343/RR Trent 772B	212.4017	60.1137			29.0549	5.0095
Day 2	A342	A340-211	Airbus A340-211/CFM56-5C2	1.0019					
Day 2	A343	A340-211	Airbus A340-211/CFM56-5C2	220.4168	106.2008			29.0549	33.0625
Day 2	A346	A340-642	Airbus A340-642/RR Trent 556	47.0891	51.0966			3.0057	6.0114
Day 2	A359	A350-941	A350-941\RR trent XWB-84	3423.4744	1491.8213			240.4547	240.4547
Day 2	A35K	A350-941	A350-941\RR trent XWB-84	1491.8213	569.0762			205.3884	117.2217
Day 2	A388	A380-841	Airbus A380-841/RR Trent 970	388.7352	201.3808			18.0341	5.0095
Day 2	ASTR	IA1125	IAI-1125 ASTRA/TFE731-3A	2.0038	3.0057				
Day 2	B38M	7378MAX	7378MAX\CFMLEap1B27	13.0246	14.0265				
Day 2	B733	737300	Boeing 737-300/CFM56-3B-1	1.0019	1.0019			9.0171	2.0038
Day 2	B734	737400	Boeing 737-400/CFM56-3C-1	62.1175	27.0512			48.0909	26.0493
Day 2	B737	737300	Boeing 737-300/CFM56-3B-1	27.0512	14.0265			1.0019	2.0038
Day 2	B738	737800	Boeing 737-800/CFM56-7B26	2112.9960	1208.2851			91.1724	80.1516
Day 2	B739	737800	Boeing 737-800/CFM56-7B26	1.0019					1.0019
Day 2	B742	74720B	Boeing 747-200/JT9D-7Q	1.0019				2.0038	2.0038
Day 2	B744	747400	Boeing 747-400/PW4056	2471.6744	1147.1695			493.9341	340.6442
Day 2	B748	7478	Boeing 747-8F / Genx-2B67	2251.2575	983.8607			420.7958	297.5627
Day 2	B752	757RR	Boeing 757-200/RB211-535E4	22.0417	3.0057			7.0133	3.0057
Day 2	B762	767CF6	Boeing 767-200/CF6-80A	61.1156	27.0512			22.0417	9.0171
Day 2	B763	7673ER	Boeing 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	444.8413	184.3486			98.1857	66.1251
Day 2	B764	767400	Boeing 767-400ER/CF6-80C2B(F)	3.0057	4.0076			1.0019	
Day 2	B772	777200	Boeing 777-200/GE90-76B	76.1440	41.0777			9.0171	4.0076
Day 2	B773	777300	Boeing 777-300/Trent 892	599.1331	255.4832			44.0834	57.1080
Day 2	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	2464.6611	1113.1051			434.8223	333.6310

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	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	2823.3394	1244.3533			406.7693	322.6101
Day 2	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	549.0383	230.4358			87.1648	84.1592
Day 2	B789	7879	Boeing 787-9/GEnx-1B76A/P2	1010.9118	575.0876			109.2065	80.1516
Day 2	B78X	7879	Boeing 787-9/GEnx-1B76A/P2	420.7958	99.1876			96.1819	57.1080
Day 2	C25C	CIT3	Cessna Citation III/TFE731-3-100S	21.0398	16.0303			1.0019	2.0038
Day 2	C510	ECLIPSE500	Eclipse 500 / PW610F						1.0019
Day 2	C560	CNA55B	Cessna 550 Citation Bravo/PW530A	3.0057	2.0038			1.0019	4.0076
Day 2	C56X	CNA55B	Cessna 550 Citation Bravo/PW530A	4.0076	1.0019			2.0038	1.0019
Day 2	C680	CNA680	Cessna Citation Sovereign 680 / PW306C	1.0019					
Day 2	C68A	CNA680	Cessna Citation Sovereign 680 / PW306C		1.0019				
Day 2	CL30	CL600	Canadair CL-600/ALF502L	2.0038					
Day 2	CL35	CL600	Canadair CL-600/ALF502L	36.0682	15.0284				
Day 2	CL60	CL601	Canadair CL-601/CF34-3A	167.3164	140.2653			29.0549	45.0853
Day 2	CRJ2	CL601	Canadair CL-601/CF34-3A	59.1118	17.0322			6.0114	3.0057
Day 2	DA42	BEC58P	Raytheon BARON 58P/TS10-520-L	2.0038	1.0019			2.0038	4.0076
Day 2	E135	EMB145	Embraer 145 ER / Allison AE3007	3.0057	3.0057				
Day 2	E190	EMB190	ERJ190-100	2.0038	1.0019				1.0019
Day 2	E35L	EMB145	Embraer 145 ER / Allison AE3007	1.0019	1.0019				
Day 2	E550	CL600	Canadair CL-600/ALF502L	2.0038	2.0038				
Day 2	E55P	CL600	Canadair CL-600/ALF502L	1.0019					
Day 2	F2TH	CL600	Canadair CL-600/ALF502L	21.0398	6.0114			1.0019	3.0057
Day 2	F900	FAL900EX	FAL900EX\TFE731-60	6.0114	4.0076			1.0019	
Day 2	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	44.0834	18.0341			1.0019	6.0114
Day 2	FA8X	GIV	Gulfstream GIV-SP/TAY 611-8	15.0284	3.0057			1.0019	
Day 2	G150	IA1125	IAI-1125 ASTRA/TFE731-3A	3.0057				2.0038	2.0038
Day 2	G280	CL600	Canadair CL-600/ALF502L	5.0095	2.0038			2.0038	1.0019
Day 2	GA5C	GV	Gulfstream GV/BR 710	3.0057	1.0019				
Day 2	GA6C	GV	Gulfstream GV/BR 710	26.0493	9.0171			2.0038	2.0038

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		1.0019				
Day 2	GALX	CL600	Canadair CL-600/ALF502L	7.0133					
Day 2	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	53.1004	29.0549			3.0057	8.0152
Day 2	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	134.2539	43.0815			17.0322	5.0095
Day 2	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	262.4964	109.2065			26.0493	14.0265
Day 2	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	124.2350	52.0985			9.0171	7.0133
Day 2	GLF5	GV	Gulfstream GV/BR 710	123.2331	56.1061			16.0303	10.0189
Day 2	GLF6	G650ER	G650ER\BR-700-725A1-12	367.6954	140.2653			29.0549	23.0436
Day 2	H25B	LEAR35	Learjet 36/TFE731-2	11.0208	3.0057			2.0038	7.0133
Day 2	HA4T	CL600	Canadair CL-600/ALF502L		1.0019				
Day 2	LJ45	LEAR35	Learjet 36/TFE731-2		1.0019			1.0019	
Day 2	LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A	1.0019	1.0019			3.0057	1.0019
Day 2	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460	37.0701	9.0171			29.0549	19.0360
Night 1	A19N	A319-131	Airbus A319-131/V2522-A5						1.0019
Night 1	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines	157.2975	20.0379			5.0095	2.0038
Night 1	A21N	A321-232	Airbus A321-232/IAE V2530-A5	83.1573	15.0284			29.0549	6.0114
Night 1	A306	A300-622R	Airbus A300-622R/PW4158	14.0265				8.0152	4.0076
Night 1	A318	A319-131	Airbus A319-131/V2522-A5	2.0038					
Night 1	A319	A319-131	Airbus A319-131/V2522-A5	2.0038					
Night 1	A320	A320-232	Airbus A320-232/V2527-A5	124.2350	20.0379			7.0133	
Night 1	A321	A321-232	Airbus A321-232/IAE V2530-A5	118.2236	30.0568			30.0568	6.0114
Night 1	A332	A330-343	Airbus A330-343/RR Trent 772B	70.1326	1.0019			51.0966	23.0436
Night 1	A333	A330-343	Airbus A330-343/RR Trent 772B	802.5177	106.2008			256.4851	66.1251
Night 1	A339	A330-343	Airbus A330-343/RR Trent 772B	3.0057	1.0019			1.0019	
Night 1	A359	A350-941	A350-941\RR trent XWB-84	246.4661	25.0474			91.1724	11.0208
Night 1	A35K	A350-941	A350-941\RR trent XWB-84	153.2899	24.0455			56.1061	9.0171
Night 1	A388	A380-841	Airbus A380-841/RR Trent 970	21.0398	16.0303			10.0189	2.0038

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	B734	737400	Boeing 737-400/CFM56-3C-1	1.0019				2.0038	
Night 1	B738	737800	Boeing 737-800/CFM56-7B26	101.1914	20.0379			20.0379	6.0114
Night 1	B744	747400	Boeing 747-400/PW4056	79.1497	2.0038			76.1440	22.0417
Night 1	B748	7478	Boeing 747-8F / Genx-2B67	161.3051	1.0019			61.1156	32.0606
Night 1	B752	757RR	Boeing 757-200/RB211-535E4	2.0038					
Night 1	B762	767CF6	Boeing 767-200/CF6-80A	1.0019					
Night 1	B763	7673ER	Boeing 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	128.2425	18.0341			11.0208	
Night 1	B764	767400	Boeing 767-400ER/CF6-80C2B(F)	1.0019				2.0038	1.0019
Night 1	B772	777200	Boeing 777-200/GE90-76B	5.0095	2.0038			5.0095	
Night 1	B773	777300	Boeing 777-300/Trent 892	101.1914	20.0379			8.0152	2.0038
Night 1	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	98.1857	2.0038			86.1629	28.0531
Night 1	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	110.2084	6.0114			275.5211	71.1345
Night 1	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	120.2274	10.0189			30.0568	
Night 1	B789	7879	Boeing 787-9/GEnx-1B76A/P2	177.3354	27.0512			54.1023	1.0019
Night 1	B78X	7879	Boeing 787-9/GEnx-1B76A/P2	1.0019					
Night 1	CL35	CL600	Canadair CL-600/ALF502L	2.0038					1.0019
Night 1	CL60	CL601	Canadair CL-601/CF34-3A	4.0076	1.0019			1.0019	1.0019
Night 1	CRJ2	CL601	Canadair CL-601/CF34-3A	1.0019				1.0019	
Night 1	E135	EMB145	Embraer 145 ER / Allison AE3007	1.0019					
Night 1	E35L	EMB145	Embraer 145 ER / Allison AE3007						1.0019
Night 1	F900	FAL900EX	FAL900EX\TFE731-60					1.0019	
Night 1	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	2.0038					1.0019
Night 1	GA6C	GV	Gulfstream GV/BR 710	1.0019				1.0019	
Night 1	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	6.0114					
Night 1	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	9.0171				3.0057	1.0019
Night 1	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	14.0265				3.0057	4.0076
Night 1	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	9.0171				1.0019	1.0019

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	GLF5	GV	Gulfstream GV/BR 710	3.0057				4.0076	
Night 1	GLF6	G650ER	G650ER\BR-700-725A1-12	24.0455				4.0076	6.0114
Night 1	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460	1.0019				2.0038	
Night 2	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines	162.3070	18.0341			23.0436	3.0057
Night 2	A21N	A321-232	Airbus A321-232/IAE V2530-A5	62.1175	10.0189			11.0208	
Night 2	A306	A300-622R	Airbus A300-622R/PW4158	126.2387				85.1611	50.0947
Night 2	A319	A319-131	Airbus A319-131/V2522-A5	1.0019					
Night 2	A320	A320-232	Airbus A320-232/V2527-A5	321.6082	41.0777			18.0341	
Night 2	A321	A321-232	Airbus A321-232/IAE V2530-A5	343.6499	47.0891			3.0057	
Night 2	A332	A330-343	Airbus A330-343/RR Trent 772B	69.1307	2.0038			50.0947	16.0303
Night 2	A333	A330-343	Airbus A330-343/RR Trent 772B	252.4775	29.0549			85.1611	27.0512
Night 2	A339	A330-343	Airbus A330-343/RR Trent 772B		1.0019				
Night 2	A359	A350-941	A350-941\RR trent XWB-84	180.3411	23.0436			31.0587	4.0076
Night 2	A35K	A350-941	A350-941\RR trent XWB-84	42.0796	1.0019			8.0152	1.0019
Night 2	A388	A380-841	Airbus A380-841/RR Trent 970		1.0019				
Night 2	ASTR	IA1125	IAI-1125 ASTRA/TFE731-3A	1.0019					
Night 2	B734	737400	Boeing 737-400/CFM56-3C-1	17.0322				45.0853	11.0208
Night 2	B738	737800	Boeing 737-800/CFM56-7B26	139.2634	4.0076			28.0531	12.0227
Night 2	B744	747400	Boeing 747-400/PW4056	92.1743				56.1061	17.0322
Night 2	B748	7478	Boeing 747-8F / Genx-2B67	190.3600				109.2065	52.0985
Night 2	B752	757RR	Boeing 757-200/RB211-535E4	3.0057					
Night 2	B762	767CF6	Boeing 767-200/CF6-80A	8.0152				2.0038	
Night 2	B763	7673ER	Boeing 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	29.0549	2.0038			7.0133	1.0019
Night 2	B772	777200	Boeing 777-200/GE90-76B	3.0057					
Night 2	B773	777300	Boeing 777-300/Trent 892	8.0152	1.0019				
Night 2	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	229.4339	1.0019			77.1459	26.0493
Night 2	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	82.1554	2.0038			82.1554	19.0360
Night 2	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	31.0587	2.0038			7.0133	
Night 2	B789	7879	Boeing 787-9/GEnx-1B76A/P2	117.2217	9.0171			40.0758	8.0152

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	B78X	7879	Boeing 787-9/GEnx-1B76A/P2	24.0455				51.0966	13.0246
Night 2	C25C	CIT3	Cessna Citation III/TFE731-3-100S	1.0019					
Night 2	CL35	CL600	Canadair CL-600/ALF502L	2.0038					
Night 2	CL60	CL601	Canadair CL-601/CF34-3A	1.0019					
Night 2	E190	EMB190	ERJ190-100	1.0019					
Night 2	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	1.0019				1.0019	
Night 2	FA8X	GIV	Gulfstream GIV-SP/TAY 611-8	1.0019					
Night 2	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	5.0095				2.0038	
Night 2	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	7.0133				1.0019	
Night 2	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	9.0171				4.0076	1.0019
Night 2	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	6.0114				1.0019	1.0019
Night 2	GLF5	GV	Gulfstream GV/BR 710	4.0076					
Night 2	GLF6	G650ER	G650ER\BR-700-725A1-12	17.0322					2.0038
Night 2	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460	3.0057				2.0038	
Night 3	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines	274.5192	11.0208			24.0455	15.0284
Night 3	A21N	A321-232	Airbus A321-232/IAE V2530-A5	18.0341				4.0076	2.0038
Night 3	A306	A300-622R	Airbus A300-622R/PW4158	562.0630				321.6082	106.2008
Night 3	A320	A320-232	Airbus A320-232/V2527-A5	138.2615	5.0095			11.0208	6.0114
Night 3	A321	A321-232	Airbus A321-232/IAE V2530-A5	90.1705	6.0114			2.0038	12.0227
Night 3	A332	A330-343	Airbus A330-343/RR Trent 772B	200.3790				78.1478	27.0512
Night 3	A333	A330-343	Airbus A330-343/RR Trent 772B	535.0118	8.0152			370.7011	98.1857
Night 3	A359	A350-941	A350-941\RR trent XWB-84	19.0360				13.0246	1.0019
Night 3	A35K	A350-941	A350-941\RR trent XWB-84	2.0038				4.0076	2.0038
Night 3	A388	A380-841	Airbus A380-841/RR Trent 970	1.0019					
Night 3	B734	737400	Boeing 737-400/CFM56-3C-1	3.0057				5.0095	4.0076
Night 3	B738	737800	Boeing 737-800/CFM56-7B26	34.0644	1.0019			5.0095	4.0076
Night 3	B744	747400	Boeing 747-400/PW4056	108.2046	1.0019			30.0568	14.0265

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	B748	7478	Boeing 747-8F / Genx-2B67	259.4907				136.2577	34.0644
Night 3	B762	767CF6	Boeing 767-200/CF6-80A	48.0909				10.0189	8.0152
Night 3	B763	7673ER	Boeing 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	143.2710				90.1705	34.0644
Night 3	B772	777200	Boeing 777-200/GE90-76B	1.0019					
Night 3	B773	777300	Boeing 777-300/Trent 892	2.0038					1.0019
Night 3	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	317.6006				182.3448	71.1345
Night 3	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	16.0303				23.0436	4.0076
Night 3	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	3.0057				2.0038	
Night 3	B789	7879	Boeing 787-9/GEnx-1B76A/P2	71.1345	5.0095			12.0227	1.0019
Night 3	CL60	CL601	Canadair CL-601/CF34-3A	3.0057				1.0019	
Night 3	CRJ2	CL601	Canadair CL-601/CF34-3A	2.0038				1.0019	
Night 3	E135	EMB145	Embraer 145 ER / Allison AE3007	1.0019					
Night 3	E190	EMB190	ERJ190-100	1.0019					
Night 3	F2TH	CL600	Canadair CL-600/ALF502L	1.0019					
Night 3	F900	FAL900EX	FAL900EX\TFE731-60	3.0057				1.0019	
Night 3	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	3.0057				2.0038	
Night 3	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	2.0038					1.0019
Night 3	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	11.0208				1.0019	4.0076
Night 3	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	5.0095				3.0057	
Night 3	GLF5	GV	Gulfstream GV/BR 710	2.0038					2.0038
Night 3	GLF6	G650ER	G650ER\BR-700-725A1-12	10.0189				1.0019	
Night 3	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460		1.0019			2.0038	
Night 4	A19N	A319-131	Airbus A319-131/V2522-A5					1.0019	
Night 4	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines	76.1440	4.0076			62.1175	12.0227
Night 4	A21N	A321-232	Airbus A321-232/IAE V2530-A5		1.0019			3.0057	
Night 4	A306	A300-622R	Airbus A300-622R/PW4158	210.3979	11.0208			277.5248	42.0796

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	A319	A319-131	Airbus A319-131/V2522-A5					1.0019	
Night 4	A320	A320-232	Airbus A320-232/V2527-A5	185.3505	24.0455			275.5211	45.0853
Night 4	A321	A321-232	Airbus A321-232/IAE V2530-A5	62.1175	8.0152			76.1440	16.0303
Night 4	A332	A330-343	Airbus A330-343/RR Trent 772B	378.7162	19.0360			607.1482	108.2046
Night 4	A333	A330-343	Airbus A330-343/RR Trent 772B	432.8185	28.0531			505.9569	54.1023
Night 4	A343	A340-211	Airbus A340-211/CFM56-5C2					2.0038	1.0019
Night 4	A346	A340-642	Airbus A340-642/RR Trent 556	1.0019					1.0019
Night 4	A359	A350-941	A350-941\RR trent XWB-84	40.0758	10.0189			96.1819	14.0265
Night 4	A35K	A350-941	A350-941\RR trent XWB-84	74.1402	10.0189			211.3998	21.0398
Night 4	B734	737400	Boeing 737-400/CFM56-3C-1	2.0038				14.0265	5.0095
Night 4	B738	737800	Boeing 737-800/CFM56-7B26	163.3088	5.0095			249.4718	33.0625
Night 4	B744	747400	Boeing 747-400/PW4056	321.6082	28.0531			692.3093	95.1800
Night 4	B748	7478	Boeing 747-8F / Genx-2B67	256.4851	18.0341			602.1388	74.1402
Night 4	B752	757RR	Boeing 757-200/RB211-535E4	2.0038	1.0019			16.0303	
Night 4	B762	767CF6	Boeing 767-200/CF6-80A	89.1686	3.0057			79.1497	21.0398
Night 4	B763	7673ER	Boeing 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	228.4320	20.0379			362.6859	47.0891
Night 4	B772	777200	Boeing 777-200/GE90-76B	1.0019				1.0019	
Night 4	B773	777300	Boeing 777-300/Trent 892	3.0057				1.0019	
Night 4	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	846.6011	70.1326			1566.9634	220.4168
Night 4	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	31.0587	6.0114			64.1213	17.0322
Night 4	B789	7879	Boeing 787-9/GEnx-1B76A/P2	6.0114				7.0133	3.0057
Night 4	CL35	CL600	Canadair CL-600/ALF502L					1.0019	
Night 4	CL60	CL601	Canadair CL-601/CF34-3A	1.0019				1.0019	
Night 4	CRJ2	CL601	Canadair CL-601/CF34-3A					2.0038	
Night 4	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	1.0019				2.0038	
Night 4	FA8X	GIV	Gulfstream GIV-SP/TAY 611-8	1.0019				1.0019	
Night 4	GA6C	GV	Gulfstream GV/BR 710	1.0019					

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	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	1.0019				2.0038	2.0038
Night 4	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	2.0038				7.0133	
Night 4	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	11.0208				8.0152	1.0019
Night 4	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	1.0019				4.0076	
Night 4	GLF5	GV	Gulfstream GV/BR 710	4.0076				1.0019	1.0019
Night 4	GLF6	G650ER	G650ER\BR-700-725A1-12	12.0227				9.0171	
Night 4	H25B	LEAR35	Learjet 36/TFE731-2		1.0019				
Night 4	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460	3.0057				40.0758	4.0076
Night 5	A19N	A319-131	Airbus A319-131/V2522-A5						1.0019
Night 5	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines	10.0189				17.0322	
Night 5	A21N	A321-232	Airbus A321-232/IAE V2530-A5	3.0057				4.0076	
Night 5	A306	A300-622R	Airbus A300-622R/PW4158	4.0076				33.0625	2.0038
Night 5	A320	A320-232	Airbus A320-232/V2527-A5	49.0928	1.0019			95.1800	6.0114
Night 5	A321	A321-232	Airbus A321-232/IAE V2530-A5	18.0341	3.0057			20.0379	6.0114
Night 5	A332	A330-343	Airbus A330-343/RR Trent 772B	86.1629	9.0171			236.4472	25.0474
Night 5	A333	A330-343	Airbus A330-343/RR Trent 772B	147.2785	13.0246			303.5741	34.0644
Night 5	A339	A330-343	Airbus A330-343/RR Trent 772B	1.0019				3.0057	2.0038
Night 5	A343	A340-211	Airbus A340-211/CFM56-5C2	1.0019				5.0095	
Night 5	A359	A350-941	A350-941\RR trent XWB-84	278.5267	31.0587			589.1141	80.1516
Night 5	A35K	A350-941	A350-941\RR trent XWB-84	185.3505	19.0360			461.8735	52.0985
Night 5	B733	737300	Boeing 737-300/CFM56-3B-1					2.0038	
Night 5	B734	737400	Boeing 737-400/CFM56-3C-1	48.0909	5.0095			60.1137	7.0133
Night 5	B738	737800	Boeing 737-800/CFM56-7B26	17.0322	3.0057			41.0777	5.0095
Night 5	B744	747400	Boeing 747-400/PW4056	254.4813	16.0303			543.0270	69.1307
Night 5	B748	7478	Boeing 747-8F / Genx-2B67	88.1667	13.0246			196.3714	26.0493
Night 5	B752	757RR	Boeing 757-200/RB211-535E4	1.0019				1.0019	
Night 5	B762	767CF6	Boeing 767-200/CF6-80A	2.0038				3.0057	

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	B763	7673ER	Boeing 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	9.0171				70.1326	9.0171
Night 5	B764	767400	Boeing 767-400ER/CF6-80C2B(F)						1.0019
Night 5	B772	777200	Boeing 777-200/GE90-76B	2.0038					1.0019
Night 5	B773	777300	Boeing 777-300/Trent 892	6.0114	4.0076			13.0246	7.0133
Night 5	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	159.3013	12.0227			321.6082	34.0644
Night 5	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	187.3543	33.0625			457.8659	70.1326
Night 5	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	16.0303				31.0587	10.0189
Night 5	B789	7879	Boeing 787-9/GEnx-1B76A/P2	11.0208	1.0019			25.0474	3.0057
Night 5	B78X	7879	Boeing 787-9/GEnx-1B76A/P2	5.0095	1.0019			10.0189	1.0019
Night 5	CL60	CL601	Canadair CL-601/CF34-3A					3.0057	
Night 5	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8					1.0019	1.0019
Night 5	GA6C	GV	Gulfstream GV/BR 710						1.0019
Night 5	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business					2.0038	
Night 5	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express					2.0038	1.0019
Night 5	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	4.0076				8.0152	1.0019
Night 5	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8						1.0019
Night 5	GLF5	GV	Gulfstream GV/BR 710	1.0019				4.0076	1.0019
Night 5	GLF6	G650ER	G650ER\BR-700-725A1-12	7.0133	1.0019			7.0133	2.0038
Night 5	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460					9.0171	2.0038
				54,804	19,721			18,607	5,887
				99,019					

* Centre runway is temporarily closed for modification works during I-2RS operation.
# 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	5.0095				331.6272	10.0189
Day 1	A21N	A321-232	Airbus A321-232/IAE V2530-A5					103.1952	29.0549
Day 1	A306	A300-622R	Airbus A300-622R/PW4158	2.0038				10.0189	
Day 1	A320	A320-232	Airbus A320-232/V2527-A5	3.0057				176.3335	35.0663
Day 1	A321	A321-232	Airbus A321-232/IAE V2530-A5	3.0057				270.5116	74.1402
Day 1	A332	A330-343	Airbus A330-343/RR Trent 772B	6.0114				164.3107	20.0379
Day 1	A333	A330-343	Airbus A330-343/RR Trent 772B	4.0076				304.5760	36.0682
Day 1	A339	A330-343	Airbus A330-343/RR Trent 772B					2.0038	
Day 1	A343	A340-211	Airbus A340-211/CFM56-5C2					2.0038	
Day 1	A346	A340-642	Airbus A340-642/RR Trent 556	1.0019				1.0019	
Day 1	A359	A350-941	A350-941\RR trent XWB-84	1.0019				101.1914	19.0360
Day 1	A35K	A350-941	A350-941\RR trent XWB-84					1.0019	
Day 1	ASTR	IA1125	IAI-1125 ASTRA/TFE731-3A					1.0019	
Day 1	B38M	7378MAX	7378MAX\CFMLEap1B27					1.0019	
Day 1	B733	737300	Boeing 737-300/CFM56-3B-1					1.0019	
Day 1	B734	737400	Boeing 737-400/CFM56-3C-1	1.0019				68.1288	13.0246
Day 1	B737	737300	Boeing 737-300/CFM56-3B-1					1.0019	1.0019
Day 1	B738	737800	Boeing 737-800/CFM56-7B26	3.0057				44.0834	5.0095
Day 1	B744	747400	Boeing 747-400/PW4056	20.0379	5.0095			788.4912	149.2823
Day 1	B748	7478	Boeing 747-8F / Genx-2B67	14.0265	3.0057			227.4301	34.0644
Day 1	B752	757RR	Boeing 757-200/RB211-535E4					1.0019	1.0019
Day 1	B762	767CF6	Boeing 767-200/CF6-80A					3.0057	
Day 1	B763	7673ER	Boeing 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	2.0038				33.0625	7.0133
Day 1	B764	767400	Boeing 767-400ER/CF6-80C2B(F)					2.0038	2.0038
Day 1	B772	777200	Boeing 777-200/GE90-76B					2.0038	
Day 1	B773	777300	Boeing 777-300/Trent 892	1.0019				205.3884	37.0701
Day 1	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	71.1345	7.0133			636.2032	91.1724
Day 1	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS					36.0682	9.0171
Day 1	B789	7879	Boeing 787-9/GEnx-1B76A/P2					13.0246	4.0076
Day 1	B78X	7879	Boeing 787-9/GEnx-1B76A/P2					6.0114	3.0057

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	C560	CNA55B	Cessna 550 Citation Bravo/PW530A					3.0057	
Day 1	CL35	CL600	Canadair CL-600/ALF502L					1.0019	1.0019
Day 1	CL60	CL601	Canadair CL-601/CF34-3A					9.0171	
Day 1	CRJ2	CL601	Canadair CL-601/CF34-3A					2.0038	
Day 1	DA42	BEC58P	Raytheon BARON 58P/TS10-520-L					1.0019	1.0019
Day 1	F2TH	CL600	Canadair CL-600/ALF502L					1.0019	
Day 1	F900	FAL900EX	FAL900EX\TFE731-60					1.0019	
Day 1	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	1.0019				5.0095	
Day 1	GA6C	GV	Gulfstream GV/BR 710					1.0019	
Day 1	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business					3.0057	
Day 1	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express					5.0095	1.0019
Day 1	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business					12.0227	3.0057
Day 1	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8					2.0038	
Day 1	GLF5	GV	Gulfstream GV/BR 710	1.0019				6.0114	
Day 1	GLF6	G650ER	G650ER\BR-700-725A1-12					8.0152	5.0095
Day 1	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460					1.0019	
Day 2	A124	74720B	Boeing 747-200/JT9D-7Q		1.0019			5.0095	3.0057
Day 2	A19N	A319-131	Airbus A319-131/V2522-A5					8.0152	4.0076
Day 2	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines	58.1099	24.0455			2214.1874	973.8417
Day 2	A21N	A321-232	Airbus A321-232/IAE V2530-A5	75.1421	8.0152			1741.2931	835.5802
Day 2	A306	A300-622R	Airbus A300-622R/PW4158	75.1421	24.0455			266.5040	165.3126
Day 2	A318	A319-131	Airbus A319-131/V2522-A5		1.0019			17.0322	1.0019
Day 2	A319	A319-131	Airbus A319-131/V2522-A5	1.0019	1.0019			62.1175	41.0777
Day 2	A320	A320-232	Airbus A320-232/V2527-A5	88.1667	9.0171			4336.2005	2060.8975
Day 2	A321	A321-232	Airbus A321-232/IAE V2530-A5	40.0758	6.0114			2172.1078	1020.9308
Day 2	A332	A330-343	Airbus A330-343/RR Trent 772B	136.2577	31.0587			1529.8933	691.3074
Day 2	A333	A330-343	Airbus A330-343/RR Trent 772B	272.5154	68.1288			7597.3680	3425.4782
Day 2	A339	A330-343	Airbus A330-343/RR Trent 772B	7.0133				269.5097	87.1648
Day 2	A342	A340-211	Airbus A340-211/CFM56-5C2						1.0019
Day 2	A343	A340-211	Airbus A340-211/CFM56-5C2					6.0114	2.0038

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	A346	A340-642	Airbus A340-642/RR Trent 556					1.0019	5.0095
Day 2	A359	A350-941	A350-941\RR trent XWB-84	238.4510	64.1213			4013.5904	1780.3670
Day 2	A35K	A350-941	A350-941\RR trent XWB-84	154.2918	32.0606			1583.9956	560.0592
Day 2	A388	A380-841	Airbus A380-841/RR Trent 970	25.0474				413.7825	80.1516
Day 2	ASTR	IA1125	IAI-1125 ASTRA/TFE731-3A					2.0038	3.0057
Day 2	B38M	7378MAX	7378MAX\CFMLEap1B27					13.0246	15.0284
Day 2	B733	737300	Boeing 737-300/CFM56-3B-1	1.0019				10.0189	4.0076
Day 2	B734	737400	Boeing 737-400/CFM56-3C-1	6.0114				107.2027	76.1440
Day 2	B737	737300	Boeing 737-300/CFM56-3B-1	3.0057				25.0474	15.0284
Day 2	B738	737800	Boeing 737-800/CFM56-7B26	37.0701	13.0246			2240.2367	1360.5731
Day 2	B739	737800	Boeing 737-800/CFM56-7B26					1.0019	1.0019
Day 2	B742	74720B	Boeing 747-200/JT9D-7Q					2.0038	3.0057
Day 2	B744	747400	Boeing 747-400/PW4056	399.7560	108.2046			3733.0599	1601.0278
Day 2	B748	7478	Boeing 747-8F / Genx-2B67	189.3581	68.1288			2221.2007	1076.0350
Day 2	B752	757RR	Boeing 757-200/RB211-535E4					11.0208	10.0189
Day 2	B762	767CF6	Boeing 767-200/CF6-80A	8.0152	2.0038			106.2008	62.1175
Day 2	B763	7673ER	Boeing 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	32.0606	11.0208			700.3244	300.5684
Day 2	B764	767400	Boeing 767-400ER/CF6-80C2B(F)					4.0076	4.0076
Day 2	B772	777200	Boeing 777-200/GE90-76B	6.0114	1.0019			65.1232	51.0966
Day 2	B773	777300	Boeing 777-300/Trent 892	10.0189	1.0019			604.1425	255.4832
Day 2	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	256.4851	64.1213			2526.7786	1141.1581
Day 2	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	306.5798	102.1933			3155.9685	1454.7512
Day 2	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	25.0474	12.0227			470.8905	301.5703
Day 2	B789	7879	Boeing 787-9/GEnx-1B76A/P2	31.0587	11.0208			879.6636	478.9057
Day 2	B78X	7879	Boeing 787-9/GEnx-1B76A/P2	36.0682	9.0171			467.8849	168.3183
Day 2	C25C	CIT3	Cessna Citation III/TFE731-3-100S					28.0531	11.0208
Day 2	C510	ECLIPSE500	Eclipse 500 / PW610F						1.0019
Day 2	C560	CNA55B	Cessna 550 Citation Bravo/PW530A					2.0038	2.0038
Day 2	C56X	CNA55B	Cessna 550 Citation Bravo/PW530A					5.0095	1.0019
Day 2	C680	CNA680	Cessna Citation Sovereign 680 / PW306C					1.0019	
Day 2	C68A	CNA680	Cessna Citation Sovereign 680 / PW306C					1.0019	
Day 2	CL30	CL600	Canadair CL-600/ALF502L					2.0038	

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	CL35	CL600	Canadair CL-600/ALF502L					35.0663	14.0265
Day 2	CL60	CL601	Canadair CL-601/CF34-3A	15.0284	7.0133			452.8564	78.1478
Day 2	CRJ2	CL601	Canadair CL-601/CF34-3A	1.0019				64.1213	24.0455
Day 2	DA42	BEC58P	Raytheon BARON 58P/TS10-520-L					14.0265	9.0171
Day 2	E135	EMB145	Embraer 145 ER / Allison AE3007					3.0057	4.0076
Day 2	E190	EMB190	ERJ190-100					1.0019	4.0076
Day 2	E35L	EMB145	Embraer 145 ER / Allison AE3007					1.0019	1.0019
Day 2	E550	CL600	Canadair CL-600/ALF502L					6.0114	
Day 2	E55P	CL600	Canadair CL-600/ALF502L					1.0019	
Day 2	F2TH	CL600	Canadair CL-600/ALF502L	1.0019				20.0379	9.0171
Day 2	F900	FAL900EX	FAL900EX\TFE731-60					8.0152	3.0057
Day 2	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	1.0019				43.0815	18.0341
Day 2	FA8X	GIV	Gulfstream GIV-SP/TAY 611-8					17.0322	3.0057
Day 2	G150	IA1125	IAI-1125 ASTRA/TFE731-3A					5.0095	2.0038
Day 2	G280	CL600	Canadair CL-600/ALF502L	1.0019				6.0114	3.0057
Day 2	GA5C	GV	Gulfstream GV/BR 710					1.0019	1.0019
Day 2	GA6C	GV	Gulfstream GV/BR 710	1.0019				31.0587	8.0152
Day 2	GA7C	G650ER	G650ER\BR-700-725A1-12					1.0019	
Day 2	GALX	CL600	Canadair CL-600/ALF502L					6.0114	1.0019
Day 2	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	1.0019	2.0038			74.1402	28.0531
Day 2	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	4.0076				144.2728	53.1004
Day 2	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	17.0322	3.0057			286.5419	138.2615
Day 2	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	1.0019	1.0019			144.2728	57.1080
Day 2	GLF5	GV	Gulfstream GV/BR 710	2.0038	1.0019			133.2520	59.1118
Day 2	GLF6	G650ER	G650ER\BR-700-725A1-12	10.0189	2.0038			445.8432	147.2785
Day 2	H25B	LEAR35	Learjet 36/TFE731-2	2.0038	2.0038			13.0246	6.0114
Day 2	HA4T	CL600	Canadair CL-600/ALF502L						1.0019
Day 2	LJ45	LEAR35	Learjet 36/TFE731-2					2.0038	
Day 2	LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A					2.0038	3.0057
Day 2	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460	15.0284	9.0171			50.0947	31.0587

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	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines					113.2141	8.0152
Night 1	A21N	A321-232	Airbus A321-232/IAE V2530-A5					110.2084	17.0322
Night 1	A306	A300-622R	Airbus A300-622R/PW4158					12.0227	
Night 1	A319	A319-131	Airbus A319-131/V2522-A5						1.0019
Night 1	A320	A320-232	Airbus A320-232/V2527-A5					99.1876	22.0417
Night 1	A321	A321-232	Airbus A321-232/IAE V2530-A5	1.0019				99.1876	17.0322
Night 1	A332	A330-343	Airbus A330-343/RR Trent 772B					71.1345	11.0208
Night 1	A333	A330-343	Airbus A330-343/RR Trent 772B	5.0095				413.7825	74.1402
Night 1	A339	A330-343	Airbus A330-343/RR Trent 772B					10.0189	
Night 1	A343	A340-211	Airbus A340-211/CFM56-5C2					44.0834	5.0095
Night 1	A359	A350-941	A350-941\RR trent XWB-84	1.0019				151.2861	9.0171
Night 1	A35K	A350-941	A350-941\RR trent XWB-84	2.0038				58.1099	4.0076
Night 1	A388	A380-841	Airbus A380-841/RR Trent 970	3.0057				19.0360	4.0076
Night 1	B737	737300	Boeing 737-300/CFM56-3B-1						1.0019
Night 1	B738	737800	Boeing 737-800/CFM56-7B26					12.0227	4.0076
Night 1	B744	747400	Boeing 747-400/PW4056	5.0095				118.2236	12.0227
Night 1	B748	7478	Boeing 747-8F / Genx-2B67	3.0057				179.3392	34.0644
Night 1	B762	767CF6	Boeing 767-200/CF6-80A					1.0019	
Night 1	B763	7673ER	Boeing 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211					32.0606	8.0152
Night 1	B772	777200	Boeing 777-200/GE90-76B					10.0189	1.0019
Night 1	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	7.0133				648.2259	83.1573
Night 1	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS					235.4453	38.0720
Night 1	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert					26.0493	6.0114
Night 1	B789	7879	Boeing 787-9/GEnx-1B76A/P2					80.1516	17.0322
Night 1	B78X	7879	Boeing 787-9/GEnx-1B76A/P2					3.0057	
Night 1	C25C	CIT3	Cessna Citation III/TFE731-3-100S					1.0019	
Night 1	CL60	CL601	Canadair CL-601/CF34-3A					3.0057	
Night 1	E135	EMB145	Embraer 145 ER / Allison AE3007					1.0019	
Night 1	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8					3.0057	2.0038
Night 1	FA8X	GIV	Gulfstream GIV-SP/TAY 611-8					1.0019	
Night 1	GA5C	GV	Gulfstream GV/BR 710						1.0019
Night 1	GA6C	GV	Gulfstream GV/BR 710					1.0019	

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	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business					3.0057	1.0019
Night 1	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express					5.0095	1.0019
Night 1	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business					7.0133	1.0019
Night 1	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8					6.0114	
Night 1	GLF5	GV	Gulfstream GV/BR 710					2.0038	1.0019
Night 1	GLF6	G650ER	G650ER\BR-700-725A1-12					12.0227	2.0038
Night 1	LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A					1.0019	
Night 1	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460					9.0171	2.0038
Night 2	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines					21.0398	3.0057
Night 2	A21N	A321-232	Airbus A321-232/IAE V2530-A5					33.0625	5.0095
Night 2	A306	A300-622R	Airbus A300-622R/PW4158					1.0019	
Night 2	A320	A320-232	Airbus A320-232/V2527-A5					38.0720	7.0133
Night 2	A321	A321-232	Airbus A321-232/IAE V2530-A5					131.2482	15.0284
Night 2	A332	A330-343	Airbus A330-343/RR Trent 772B					120.2274	13.0246
Night 2	A333	A330-343	Airbus A330-343/RR Trent 772B					280.5305	39.0739
Night 2	A339	A330-343	Airbus A330-343/RR Trent 772B					5.0095	1.0019
Night 2	A343	A340-211	Airbus A340-211/CFM56-5C2					169.3202	22.0417
Night 2	A346	A340-642	Airbus A340-642/RR Trent 556					71.1345	14.0265
Night 2	A359	A350-941	A350-941\RR trent XWB-84					98.1857	8.0152
Night 2	A35K	A350-941	A350-941\RR trent XWB-84	1.0019				363.6878	68.1288
Night 2	B734	737400	Boeing 737-400/CFM56-3C-1					2.0038	1.0019
Night 2	B738	737800	Boeing 737-800/CFM56-7B26					10.0189	4.0076
Night 2	B744	747400	Boeing 747-400/PW4056	1.0019				77.1459	8.0152
Night 2	B748	7478	Boeing 747-8F / Genx-2B67	2.0038				261.4945	30.0568
Night 2	B752	757RR	Boeing 757-200/RB211-535E4					12.0227	1.0019
Night 2	B762	767CF6	Boeing 767-200/CF6-80A					8.0152	1.0019
Night 2	B763	7673ER	Boeing 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211					12.0227	2.0038
Night 2	B772	777200	Boeing 777-200/GE90-76B					2.0038	1.0019
Night 2	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS					202.3827	25.0474

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	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	4.0076				635.2013	69.1307
Night 2	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	1.0019				61.1156	8.0152
Night 2	B789	7879	Boeing 787-9/GEnx-1B76A/P2	2.0038				269.5097	31.0587
Night 2	CL60	CL601	Canadair CL-601/CF34-3A						1.0019
Night 2	CRJ2	CL601	Canadair CL-601/CF34-3A					1.0019	
Night 2	E190	EMB190	ERJ190-100					1.0019	
Night 2	E35L	EMB145	Embraer 145 ER / Allison AE3007						1.0019
Night 2	F2TH	CL600	Canadair CL-600/ALF502L					1.0019	
Night 2	F900	FAL900EX	FAL900EX\TFE731-60					3.0057	
Night 2	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8					2.0038	
Night 2	GA6C	GV	Gulfstream GV/BR 710					1.0019	
Night 2	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business					2.0038	
Night 2	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express					6.0114	
Night 2	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business					9.0171	
Night 2	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8					2.0038	
Night 2	GLF5	GV	Gulfstream GV/BR 710					13.0246	2.0038
Night 2	GLF6	G650ER	G650ER\BR-700-725A1-12					16.0303	
Night 2	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460					25.0474	2.0038
Night 3	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines					3.0057	
Night 3	A21N	A321-232	Airbus A321-232/IAE V2530-A5					43.0815	2.0038
Night 3	A306	A300-622R	Airbus A300-622R/PW4158	1.0019				69.1307	2.0038
Night 3	A318	A319-131	Airbus A319-131/V2522-A5					1.0019	
Night 3	A320	A320-232	Airbus A320-232/V2527-A5					15.0284	
Night 3	A321	A321-232	Airbus A321-232/IAE V2530-A5					150.2842	19.0360
Night 3	A332	A330-343	Airbus A330-343/RR Trent 772B					76.1440	14.0265
Night 3	A333	A330-343	Airbus A330-343/RR Trent 772B					193.3657	27.0512
Night 3	A339	A330-343	Airbus A330-343/RR Trent 772B					3.0057	
Night 3	A343	A340-211	Airbus A340-211/CFM56-5C2	3.0057				126.2387	2.0038
Night 3	A346	A340-642	Airbus A340-642/RR Trent 556					9.0171	1.0019
Night 3	A359	A350-941	A350-941\RR trent XWB-84	1.0019				253.4794	23.0436

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	A35K	A350-941	A350-941\RR trent XWB-84	6.0114				766.4495	78.1478
Night 3	A388	A380-841	Airbus A380-841/RR Trent 970					53.1004	9.0171
Night 3	B734	737400	Boeing 737-400/CFM56-3C-1					28.0531	2.0038
Night 3	B738	737800	Boeing 737-800/CFM56-7B26					12.0227	5.0095
Night 3	B744	747400	Boeing 747-400/PW4056					71.1345	12.0227
Night 3	B748	7478	Boeing 747-8F / Genx-2B67	1.0019				367.6954	44.0834
Night 3	B752	757RR	Boeing 757-200/RB211-535E4					7.0133	
Night 3	B763	7673ER	Boeing 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211					6.0114	
Night 3	B764	767400	Boeing 767-400ER/CF6-80C2B(F)					1.0019	
Night 3	B772	777200	Boeing 777-200/GE90-76B					8.0152	2.0038
Night 3	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS					101.1914	17.0322
Night 3	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	2.0038				400.7579	45.0853
Night 3	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	1.0019				179.3392	18.0341
Night 3	B789	7879	Boeing 787-9/GEnx-1B76A/P2					96.1819	16.0303
Night 3	B78X	7879	Boeing 787-9/GEnx-1B76A/P2					66.1251	7.0133
Night 3	E550	CL600	Canadair CL-600/ALF502L					1.0019	
Night 3	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8					1.0019	
Night 3	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business					2.0038	
Night 3	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express					4.0076	
Night 3	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business					4.0076	1.0019
Night 3	GLF5	GV	Gulfstream GV/BR 710					7.0133	1.0019
Night 3	GLF6	G650ER	G650ER\BR-700-725A1-12					16.0303	
Night 3	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460					2.0038	1.0019
Night 4	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines	23.0436	1.0019			44.0834	5.0095
Night 4	A21N	A321-232	Airbus A321-232/IAE V2530-A5	1.0019				16.0303	1.0019
Night 4	A306	A300-622R	Airbus A300-622R/PW4158	345.6537	49.0928			862.6314	102.1933
Night 4	A319	A319-131	Airbus A319-131/V2522-A5	1.0019				1.0019	
Night 4	A320	A320-232	Airbus A320-232/V2527-A5	72.1364	16.0303			181.3430	32.0606
Night 4	A321	A321-232	Airbus A321-232/IAE V2530-A5	5.0095				18.0341	

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	A332	A330-343	Airbus A330-343/RR Trent 772B	240.4547	33.0625			868.6428	96.1819
Night 4	A333	A330-343	Airbus A330-343/RR Trent 772B	438.8299	55.1042			1351.5560	149.2823
Night 4	A339	A330-343	Airbus A330-343/RR Trent 772B					1.0019	
Night 4	A343	A340-211	Airbus A340-211/CFM56-5C2	2.0038				17.0322	2.0038
Night 4	A346	A340-642	Airbus A340-642/RR Trent 556					5.0095	
Night 4	A359	A350-941	A350-941\RR trent XWB-84	129.2444	22.0417			493.9341	49.0928
Night 4	A35K	A350-941	A350-941\RR trent XWB-84	88.1667	14.0265			385.7295	38.0720
Night 4	A388	A380-841	Airbus A380-841/RR Trent 970	4.0076	2.0038			38.0720	10.0189
Night 4	B734	737400	Boeing 737-400/CFM56-3C-1	14.0265	1.0019			76.1440	13.0246
Night 4	B738	737800	Boeing 737-800/CFM56-7B26	117.2217	15.0284			393.7446	40.0758
Night 4	B744	747400	Boeing 747-400/PW4056	50.0947	7.0133			211.3998	17.0322
Night 4	B748	7478	Boeing 747-8F / Genx-2B67	227.4301	23.0436			1040.9687	109.2065
Night 4	B752	757RR	Boeing 757-200/RB211-535E4	1.0019				8.0152	
Night 4	B762	767CF6	Boeing 767-200/CF6-80A	71.1345	9.0171			148.2804	20.0379
Night 4	B763	7673ER	Boeing 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	96.1819	9.0171			269.5097	30.0568
Night 4	B772	777200	Boeing 777-200/GE90-76B	2.0038				6.0114	
Night 4	B773	777300	Boeing 777-300/Trent 892	3.0057				9.0171	
Night 4	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	304.5760	38.0720			1103.0861	149.2823
Night 4	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	44.0834	5.0095			298.5646	33.0625
Night 4	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	20.0379				84.1592	5.0095
Night 4	B789	7879	Boeing 787-9/GEnx-1B76A/P2	57.1080	7.0133			360.6821	37.0701
Night 4	B78X	7879	Boeing 787-9/GEnx-1B76A/P2					17.0322	
Night 4	C56X	CNA55B	Cessna 550 Citation Bravo/PW530A					1.0019	
Night 4	CL35	CL600	Canadair CL-600/ALF502L					2.0038	
Night 4	CL60	CL601	Canadair CL-601/CF34-3A					3.0057	
Night 4	CRJ2	CL601	Canadair CL-601/CF34-3A					1.0019	
Night 4	F900	FAL900EX	FAL900EX\TFE731-60	1.0019				1.0019	
Night 4	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8					2.0038	
Night 4	FA8X	GIV	Gulfstream GIV-SP/TAY 611-8					1.0019	
Night 4	GA6C	GV	Gulfstream GV/BR 710					2.0038	1.0019
Night 4	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business						1.0019

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	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	3.0057				7.0133	
Night 4	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	3.0057				6.0114	
Night 4	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	2.0038				5.0095	
Night 4	GLF5	GV	Gulfstream GV/BR 710					2.0038	2.0038
Night 4	GLF6	G650ER	G650ER\BR-700-725A1-12	3.0057	1.0019			26.0493	2.0038
Night 4	H25B	LEAR35	Learjet 36/TFE731-2	1.0019	1.0019				
Night 4	LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A	1.0019					
Night 4	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460	1.0019				16.0303	1.0019
Night 5	A19N	A319-131	Airbus A319-131/V2522-A5					1.0019	
Night 5	A20N	A320-270N	A320-271N\PW1127G-JM with mod160734 engines					14.0265	2.0038
Night 5	A306	A300-622R	Airbus A300-622R/PW4158	15.0284	2.0038			97.1838	13.0246
Night 5	A319	A319-131	Airbus A319-131/V2522-A5					1.0019	
Night 5	A320	A320-232	Airbus A320-232/V2527-A5	3.0057	1.0019			4.0076	1.0019
Night 5	A321	A321-232	Airbus A321-232/IAE V2530-A5					1.0019	
Night 5	A332	A330-343	Airbus A330-343/RR Trent 772B	80.1516	11.0208			233.4415	32.0606
Night 5	A333	A330-343	Airbus A330-343/RR Trent 772B	13.0246	1.0019			48.0909	11.0208
Night 5	A343	A340-211	Airbus A340-211/CFM56-5C2	1.0019				1.0019	1.0019
Night 5	A359	A350-941	A350-941\RR trent XWB-84					1.0019	
Night 5	A35K	A350-941	A350-941\RR trent XWB-84	1.0019				3.0057	
Night 5	B734	737400	Boeing 737-400/CFM56-3C-1					3.0057	1.0019
Night 5	B738	737800	Boeing 737-800/CFM56-7B26	23.0436				61.1156	3.0057
Night 5	B744	747400	Boeing 747-400/PW4056	11.0208	1.0019			40.0758	5.0095
Night 5	B748	7478	Boeing 747-8F / Genx-2B67	40.0758	4.0076			315.5968	33.0625
Night 5	B752	757RR	Boeing 757-200/RB211-535E4	2.0038	1.0019			9.0171	1.0019
Night 5	B762	767CF6	Boeing 767-200/CF6-80A	4.0076	1.0019			11.0208	1.0019
Night 5	B763	7673ER	Boeing 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	119.2255	15.0284			344.6518	41.0777
Night 5	B772	777200	Boeing 777-200/GE90-76B					2.0038	
Night 5	B773	777300	Boeing 777-300/Trent 892					2.0038	1.0019
Night 5	B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	296.5608	37.0701			1039.9668	131.2482
Night 5	B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	2.0038	1.0019			1.0019	

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	B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert					1.0019	
Night 5	C25C	CIT3	Cessna Citation III/TFE731-3-100S					2.0038	
Night 5	CL35	CL600	Canadair CL-600/ALF502L					4.0076	
Night 5	CL60	CL601	Canadair CL-601/CF34-3A					4.0076	
Night 5	CRJ2	CL601	Canadair CL-601/CF34-3A					1.0019	1.0019
Night 5	FA7X	GIV	Gulfstream GIV-SP/TAY 611-8					2.0038	1.0019
Night 5	GA5C	GV	Gulfstream GV/BR 710					1.0019	
Night 5	GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business					2.0038	
Night 5	GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	1.0019				5.0095	
Night 5	GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	3.0057				11.0208	
Night 5	GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	1.0019	1.0019			2.0038	1.0019
Night 5	GLF5	GV	Gulfstream GV/BR 710					4.0076	
Night 5	GLF6	G650ER	G650ER\BR-700-725A1-12	4.0076				3.0057	2.0038
Night 5	MD11	MD11PW	McDonnell Douglas MD-11/PW 4460					3.0057	
				5,777	1,099			68,613	23,781
				99,270					

* Centre runway is temporarily closed for modification works during I-2RS operation.
# 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)	1759.3272	245.4642			1152.1790	219.4150
Day 2 (0800 – 2159)	39544.7862	18442.8787			4656.8068	3342.3209
Night 1 (2200 – 2259)	2962.6028	367.6954			1197.2642	309.5855
Night 2 (2300 – 2359)	2593.9055	194.3676			830.5708	264.5002
Night 3 (0000 – 0059)	2891.4683	38.0720			1336.5276	451.8545
Night 4 (0100 – 0459)	3449.5237	267.5059			5853.0692	838.5859
Night 5 (0500 – 0659)	1602.0297	165.3126			3579.7700	461.8735
	54,804	19,721			18,606	5,888
	99,019					

* Centre runway is temporarily closed for modification works during I-2RS operation.

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)	139.2634	15.0284			3598.8060	591.1179
Day 2 (0800 – 2159)	2590.8998	699.3225			45635.3044	20842.4167
Night 1 (2200 – 2259)	27.0512				2601.9207	387.7333
Night 2 (2300 – 2359)	11.0208				2967.6123	382.7238
Night 3 (0000 – 0059)	15.0284				3143.9458	348.6594
Night 4 (0100 – 0459)	2373.4887	308.5836			8385.8591	945.7887
Night 5 (0500 – 0659)	620.1729	76.1440			2279.3106	282.5343
	5,777	1,099			68,613	23,781
	99,270					

* Centre runway is temporarily closed for modification works during I-2RS operation.

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		1.0019	8.0152						
A19N	A319-131	Airbus A319-131/V2522-A5	5		2.0038	7.0133		4.0076				
A20N	A320-270N	A320-271N/PW1127G-JM with mod160734 engines	5	473.8962	1097.0748	2023.8274	258.4888	1.0019				
A21N	A321-232	Airbus A321-232/IAE V2530-A5	5	1179.2301	1498.8346	249.4718	93.1762					
A306	A300-622R	Airbus A300-622R/PW4158	6	360.6821	633.1975	1113.1051	7.0133	1.0019				
A318	A319-131	Airbus A319-131/V2522-A5	5	5.0095	6.0114	5.0095	4.0076					
A319	A319-131	Airbus A319-131/V2522-A5	5	12.0227	78.1478	10.0189	5.0095	4.0076				
A320	A320-232	Airbus A320-232/V2527-A5	5	1868.5337	3600.8098	1410.6678	317.6006	3.0057				
A321	A321-232	Airbus A321-232/IAE V2530-A5	5	268.5078	1631.0847	1274.4101	868.6428	1.0019				
A332	A330-343	Airbus A330-343/RR Trent 772B	7	857.6219	1758.3253	1008.9080	601.1369	131.2482	121.2293	1.0019		
A333	A330-343	Airbus A330-343/RR Trent 772B	7	3952.4748	5516.4325	3608.8249	1555.9426	77.1459	98.1857			
A339	A330-343	Airbus A330-343/RR Trent 772B	7		375.7105		5.0095	5.0095				
A342	A340-211	Airbus A340-211/CFM56-5C2	7					1.0019				
A343	A340-211	Airbus A340-211/CFM56-5C2	7		1.0019					404.7655		
A346	A340-642	Airbus A340-642/RR Trent 556	7							108.2046		
A359	A350-941	A350-941\RR trent XWB-84	8	247.4680	1328.5125	3006.6862	1017.9251	335.6347	418.7920	489.9265	613.1596	
A35K	A350-941	A350-941\RR trent XWB-84	8	480.9095	263.4983	337.6385	108.2046	104.1971	902.7072	1113.1051	898.6996	

Aircraft ID	ANP Aircraft	ANP Aircraft Description	Max Stage Length	1	2	3	4	5	6	7	8	9
A388	A380-841	Airbus A380-841/RR Trent 970	8	1.0019	283.5362	224.4244		100.1895	52.0985			
ASTR	IA1125	IAI-1125 ASTRA/TFE731-3A	1	6.0114								
B38M	7378MAX	7378MAX\CFMLEap1B27	6	2.0038	1.0019	7.0133	17.0322	1.0019	1.0019			
B733	737300	Boeing 737-300/CFM56-3B-1	4		16.0303							
B734	737400	Boeing 737-400/CFM56-3C-1	4		401.7598	11.0208						
B737	737300	Boeing 737-300/CFM56-3B-1	4	11.0208	1.0019	26.0493	8.0152					
B738	737800	Boeing 737-800/CFM56-7B26	6	1028.9459	1937.6645	1084.0501	305.5779	3.0057	44.0834			
B739	737800	Boeing 737-800/CFM56-7B26	6			1.0019		1.0019				
B742	74720B	Boeing 747-200/JT9D-7Q	7					5.0095				
B744	747400	Boeing 747-400/PW4056	9	717.3566	512.9701	1351.5560	1168.2093	1659.1377	2018.8179	15.0284	1.0019	8.0152
B748	7478	Boeing 747-8F / Genx-2B67	9	401.7598	304.5760	470.8905	870.6465	1104.0880	3276.1959	119.2255	1.0019	1.0019
B752	757RR	Boeing 757-200/RB211-535E4	7	13.0246	5.0095	1.0019	17.0322	29.0549				
B762	767CF6	Boeing 767-200/CF6-80A	7	1.0019		439.8318	15.0284	1.0019				
B763	7673ER	Boeing 767-300ER/767-300/767-300F/CF6-80C2B/PW4000/RB211	7	16.0303	36.0682	114.2160	1161.1960	603.1406	136.2577	4.0076		
B764	767400	Boeing 767-400ER/CF6-80C2B(F)	7	1.0019	1.0019		6.0114			5.0095		
B772	777200	Boeing 777-200/GE90-76B	9	1.0019	47.0891	15.0284	35.0663			50.0947	7.0133	4.0076
B773	777300	Boeing 777-300/Trent 892	7	102.1933	460.8716	295.5590	268.5078			2.0038		
B77L	7773ER	Boeing 777-300ER / GE 90-115B-EIS	9	651.2316	391.7409	1647.1150	527.9985	3089.8434	948.7943	1005.9023	247.4686	467.8849
B77W	7773ER	Boeing 777-300ER / GE 90-115B-EIS	9	881.6674	1165.2037	919.7394	1395.6394	247.4680	680.2865	743.4059	839.5878	6.0114

Aircraft ID	ANP Aircraft	ANP Aircraft Description	Max Stage Length	1	2	3	4	5	6	7	8	9
B788	7878R	Boeing 787-8/T1000-C/01 Family Plan Cert	9	23.0436	146.2766	155.2937	644.2183	102.1933	107.2027	38.0720	1.0019	3.0057
B789	7879	Boeing 787-9/GEnx-1B76A/P2	8	368.6973	206.3903	564.0668	462.8754		67.1269	604.1425	118.2236	
B78X	7879	Boeing 787-9/GEnx-1B76A/P2	8	482.9133	2.0038	298.5646						
C25C	CIT3	Cessna Citation III/TFE731-3-100S	1	42.0796								
C510	ECLIPSE500	Eclipse 500 / PW610F	3		1.0019							
C560	CNA55B	Cessna 550 Citation Bravo/PW530A	1	7.0133								
C56X	CNA55B	Cessna 550 Citation Bravo/PW530A	1	7.0133								
C680	CNA680	Cessna Citation Sovereign 680 / PW306C	1	1.0019								
C68A	CNA680	Cessna Citation Sovereign 680 / PW306C	1	1.0019								
CL30	CL600	Canadair CL-600/ALF502L	1	2.0038								
CL35	CL600	Canadair CL-600/ALF502L	1	57.1080								
CL60	CL601	Canadair CL-601/CF34-3A	1	573.0838								
CRJ2	CL601	Canadair CL-601/CF34-3A	1	95.1800								
DA42	BEC58P	Raytheon BARON 58P/TS10-520-L	1	25.0474								
E135	EMB145	Embraer 145 ER / Allison AE3007	4	3.0057	1.0019	3.0057	1.0019					
E190	EMB190	ERJ190-100	4			4.0076	2.0038					
E35L	EMB145	Embraer 145 ER / Allison AE3007	4	1.0019	2.0038							
E550	CL600	Canadair CL-600/ALF502L	1	7.0133								

Aircraft ID	ANP Aircraft	ANP Aircraft Description	Max Stage Length	1	2	3	4	5	6	7	8	9
E55P	CL600	Canadair CL-600/ALF502L	1	1.0019								
F2TH	CL600	Canadair CL-600/ALF502L	1	32.0606								
F900	FAL900EX	FAL900EX\TFE731-60	7	2.0038	4.0076	3.0057	5.0095	3.0057				
FA7X	GIV	Gulfstream GIV-SP/TAY 611-8	1	81.1535								
FA8X	GIV	Gulfstream GIV-SP/TAY 611-8	1	22.0417								
G150	IA1125	IAI-1125 ASTRA/TFE731-3A	1	7.0133								
G280	CL600	Canadair CL-600/ALF502L	1	10.0189								
GA5C	GV	Gulfstream GV/BR 710	1	4.0076								
GA6C	GV	Gulfstream GV/BR 710	1	46.0872								
GA7C	G650ER	G650ER\BR-700-725A1-12	9									1.0019
GALX	CL600	Canadair CL-600/ALF502L	1	7.0133								
GL5T	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	7	21.0398	28.0531	26.0493	15.0284	18.0341	10.0189	1.0019		
GL7T	BD-700-1A10	BD-700-1A10\BR700-710A2-20 Bombardier Global Express	8	25.0474	42.0796	62.1175	31.0587	14.0265	12.0227	24.0455	29.0549	
GLEX	BD-700-1A11	BD-700-1A11\BR700-710A2-20 Bombardier Global 5000 Business	7	68.1288	114.2160	143.2710	67.1269	47.0891	39.0739	26.0493		
GLF4	GIV	Gulfstream GIV-SP/TAY 611-8	1	225.4263								
GLF5	GV	Gulfstream GV/BR 710	1	236.4472								
GLF6	G650ER	G650ER\BR-700-725A1-12	9	119.2255	146.2766	140.2653	73.1383	41.0777	43.0815	78.1478	32.0606	32.0606
H25B	LEAR35	Learjet 36/TFE731-2	1	25.0474								

Aircraft ID	ANP Aircraft	ANP Aircraft Description	Max Stage Length	1	2	3	4	5	6	7	8	9
HA4T	CL600	Canadair CL-600/ALF502L	1	1.0019								
LJ45	LEAR35	Learjet 36/TFE731-2	1	2.0038								
LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A	1	7.0133								
MD11	MD11PW	McDonnell Douglas MD-11/PW4460	7	53.1004		98.1857			17.0322			

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
A342	A340-211	Airbus A340-211/CFM56-5C2
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
ASTR	IA1125	IAI-1125 ASTRA/TFE731-3A
B38M	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
B742	74720B	Boeing 747-200/JT9D-7Q
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
B764	767400	Boeing 767-400ER/CF6-80C2B(F)
B772	777200	Boeing 777-200/GE90-76B
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

ICAO Aircraft Code	ANP Aircraft ID	ANP Aircraft Description
C510	ECLIPSE500	Eclipse 500 / PW610F
C560	CNA55B	Cessna 550 Citation Bravo/PW530A
C56X	CNA55B	Cessna 550 Citation Bravo/PW530A
C680	CNA680	Cessna Citation Sovereign 680 / PW306C
C68A	CNA680	Cessna Citation Sovereign 680 / PW306C
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
DA42	BEC58P	Raytheon BARON 58P/TS10-520-L
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
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
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
HA4T	CL600	Canadair CL-600/ALF502L
LJ45	LEAR35	Learjet 36/TFE731-2
LJ60	CNA55B	Cessna 550 Citation Bravo/PW530A
MD11	MD11PW	McDonnell Douglas MD-11/PW 4460