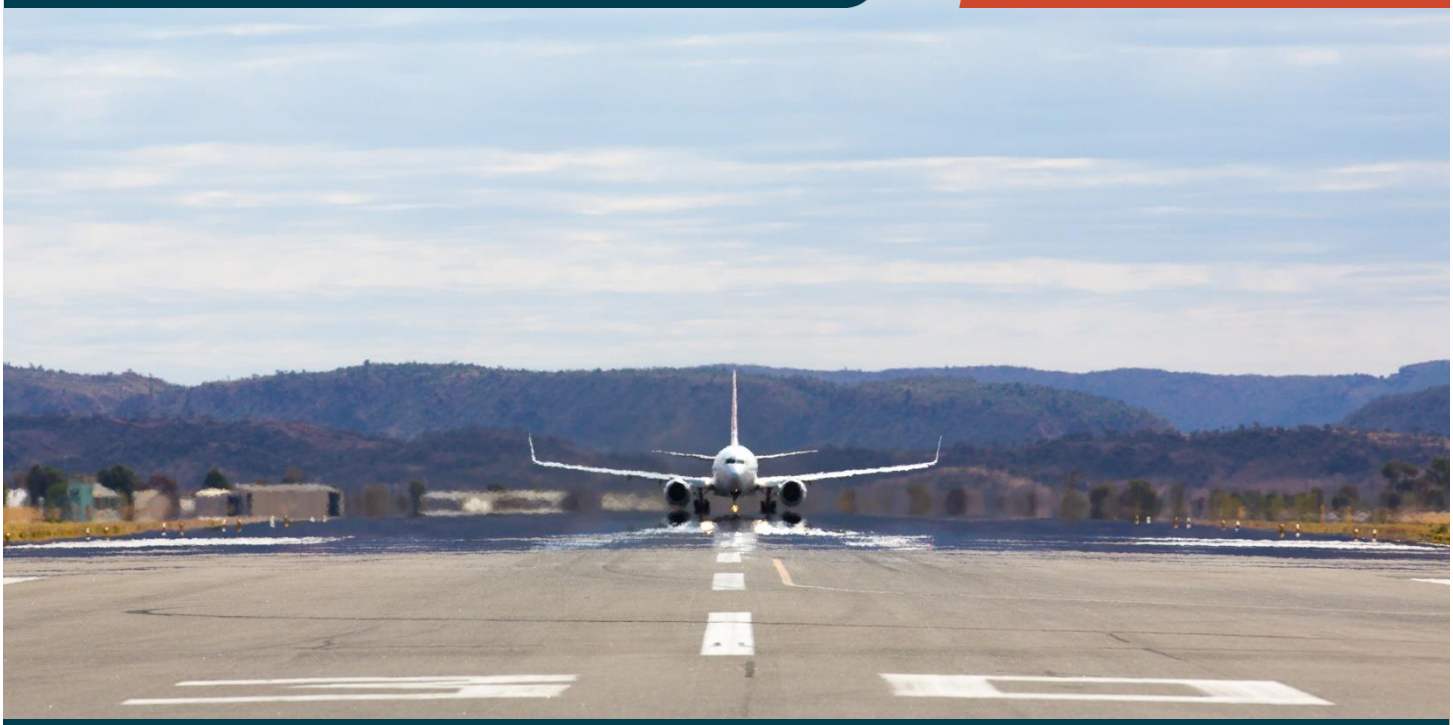


Aircraft Engine Ground Runs

APPROVED DECEMBER 2019

Alice Springs Airport

Contents

Overview

Document Details

Document Owner *Responsible for content and compliance*	Manager Operations
Consultation *Consult before making changes*	Manager Operations
Stakeholders *Inform about changes*	Aerodrome Reporting Officers (AROs), ATC, APAS, Aircraft Engineering (NT), AAMS

Introduction

Engine ground runs are routine aircraft engine maintenance tests performed for extended periods of time generating continuous elevated noise levels. Under legislation, Alice Springs Airport (ASA) is required to take reasonable measures to minimise the risk of noise impacts and harm from engine ground runs. These measures include restricting where and when engine ground runs can be conducted.

Overview

These procedures cover:

- Approval for engine ground runs
- Notifications prior to engine ground runs
- Record of engine ground runs
- Complaints regarding engine ground runs

Engine ground runs may only be conducted in accordance with these procedures.

Legislative Requirements

As a federally-leased airport, Alice Springs Airport Pty Ltd (ASA) is required under the Airports Act 1996 to produce an Environment Strategy. This Environment Strategy is required to specify measures for controlling environmental impacts, including the generation of noise from aircraft engine ground runs. This is important to ensure safety standards are met to minimise the risk of noise impacts and harm to people and property, especially to sensitive receptors. ASA's Environment Strategy is contained in the ASA Master Plan.

The Airports (Environment Protection) Regulations 1997 outline ASA's requirements in relation to the generation of noise. In particular:

- **Regulation 4.06** requires that operators of undertakings at airports must take all reasonable and practical measures to prevent the generation of offensive noise.
- **Regulation 7.03** states that the AEO can make an environment protection order that requires an operator minimise the generation of offensive noise. If the operator does not comply they may receive a financial penalty.

Scope

These procedures largely apply to the AROs, the Manager Operations and the Security & Compliance Officer, but they also apply to other staff in the Operations Department who provide support these positions.

These procedures do not apply to and are not intended to limit immediate pre-flight engine checks[1], normal start, taxi and shutdown procedures.

Values

These procedures are underpinned our corporate values:

Safety first
Safety is our number one priority.

Customer focussed
Our customers are important and our focus on their needs will ensure our relevance and success.

Honesty and integrity
We are honest, ethical and professional in all that we do.

Accountability
We will deliver on our commitments and take ownership of our responsibilities.

Environmentally responsible
We take stewardship of our environment seriously.

Innovative and creative
We encourage new thinking in our team.

Community engagement
We are an important part of the communities in which we operate and we will seek to engage with them at all levels.

Team work
We will work together to achieve the collective goals.

Respect for each other
Our people are our most important resource and we appreciate their values, respect their rights, promote their talents and reward their commitment.

Definitions and Abbreviations

AEO	Airport Environment Officer. Appointed by the Commonwealth Government to, amongst other environmental concerns, monitor noise.
Aircraft engine ground runs	Routine aircraft engine maintenance tests performed for extended periods of time generating continuous elevated noise levels.
ARO	Aerodrome Reporting Officer.
ATC	Air Traffic Control.
CASA	Civil Aviation Safety Authority.

[1] See *Pre-Flight Engine Checks* on page 7 for more information.

CTAF Hours	Common Traffic Advisory Frequency (CTAF) Hours is when the ATC is not on duty, such as overnight.
Maintenance organisation	Any business conducting maintenance on aircraft.
MOS Part 139	Manual of Standards, Part 139 - Aerodromes. The MOS Part 139 sets out standards for aerodromes to ensure aviation safety.
MOWP	Method of Works Plan.
MTOW	Maximum take-off weight.
NOF	NOTAM Office.
NOTAM	Notice to Airmen.
NTA	Northern Territory Airports Pty Ltd.
Offensive noise	Offensive noise occurs when noise is generated at a volume, in a way, or under a circumstance that, in the opinion of the AEO, offensively intrudes on an individual, community or commercial amenity.
Operator	The operator is the person or operator of the equipment or aircraft making the noise.
RPT	Regular Public Transport.
RWY	Runway.
Sensitive receptors	Sensitive receptors are people or groups that may have a significantly increased sensitivity to noise (e.g. houses, caravan parks, hotel, school, hospital, church). For a detailed list see Regulation 2.04 in the Airports (Environment Protection) Regulations 1997.
THR	Threshold.
TWY	Taxiway.
Undertaking	The undertaking is the operation of the equipment or aircraft.

Approval for Engine Ground Runs

Approval Process

To gain approval for an engine ground run[2]:

1. The maintenance organisation needs to determine a suitable site[3] for the engine ground run, taking into consideration the aircraft type, time of day, wind direction and level of power setting required. To determine a suitable site, the maintenance organisation needs to:
    1.1. Consider the restrictions for each site (see *Appendix A – Site Locations and Restrictions*).
    1.2. Assess the risk of damage to facilities from jet blast (see *Jet Blast Assessment* on page 5).
2. The maintenance organisation must send an email to ASA (i.e. the ARO, Manager Operations or Security & Compliance Officer), requesting approval to conduct the engine ground run. It is recommended that this email is sent 24 hours prior to the requested engine ground run. This email must include details such as:
    2.1. The operator's details.
    2.2. Location (e.g. TWY A4/adjacent bay 2).
    2.3. Direction facing (east or west).
    2.4. Aircraft type and registration.
    2.5. Start time and end time.
    2.6. Minutes of 'idle' engine duration.
    2.7. Minutes of high power duration, including the % power (e.g. 5 minutes at 50% power).
3. The ARO, in consultation with the Manager Operations, will determine whether approval should be granted. This will include:
    3.1. Assessing the safety risk of the requested engine ground run. This includes assessing the risk in relation to jet blast (see *Jet Blast Assessment* on page 6).
    3.2. Assessing whether the request complies with the site restrictions outlined in *Appendix A – Site Locations and Restrictions*. If there is an urgent operational requirement, a dispensation may be granted (see *Dispensations* on page 7).
    3.3. Determining whether the site is available. Where there are multiple requests for the same site, the Manager Operations will determine who is given approval.
4. If there are no concerns, the Manager Operations will issue an approval email.

[2] Pre-flight engine checks do not require approval. See *Pre-Flight Engine Checks* on page 7.

[3] If the chosen site is a runway, the requirements under *Jet Maintenance on Runways* on page 5 must also be complied with.

5. If the engine ground run requires the closure of a taxiway and/or runway, the ARO or Manager Operations will also:

    5.1. Complete the *Aircraft Engine Run Approval Form*, which is located on the P: drive.

    5.2. Email the completed form to the operator and relevant stakeholders (e.g. ATC, QANTAS, Chartair). This form must be received by the operator before starting the engine ground run.

6. If required, the ARO or Manager Operations will issue a NOTAM for the closure of the Runway or Taxiway.

7. The ARO will log the request in Tracker Airside (see *Monitor and Record Engine Ground* Runs on page 9).

8. During ATC hours, the maintenance organisation must also request approval from ATC prior to conducting the engine ground run if it is to be conducted on a runway or taxiway.

Pre-Flight Engine Checks

Aircraft conducting immediate pre-flight engine checks do not require approvals.

However, pre-flight engine checks above idle are not permitted on aprons unless authorised by ASA and ATC.

Jet Maintenance on Runways

When jet maintenance operations are to be conducted on runways, the following requirements must be met in addition to those listed in the process in *Approval Process* on page 4:

- The maintenance organisation must request approval from ASA via email at least two working days before the proposed operations.
- Both ATC and ASA need to approve an engine ground run if it is to be conducted during ATC operational hours.
- A NOTAM must be issued (see *NOTAM Requirements* on page 8).
- The commencement time of the NOTAM commencement needs to be respected. If the crew is not ready and is consequently causing a delay to enter the runway:
    - The operations must be ceased.
    - ATC, the ARO and/or Works Safety Officer will notify the crew not to enter the runway.
    - The NOTAM will be cancelled immediately.
- The crew must vacate the runway at least 30 minutes before the NOTAM expiry so the ARO/Works Safety Officer can inspect the runway (e.g. to check for FOD) before the runway is reopened for GA and RPT traffic.
- No engine ground runs are permitted on Tuesday mornings due to the extra traffic (GA and Alliance Airlines).

Jet Blast Assessment

Propeller wash, rotor wash and jet blast can have an impact on ASA and other facilities. Maintenance organisations need to assess the risk of possible damage to facilities when requesting approval to conduct an engine ground run.

The cost of any repairs from engine ground runs will be borne by the maintenance organisation. ASA accepts no responsibility for loss or damage caused from an engine ground run conducted by a maintenance organisation.

The following table lists the maximum jet blast that people, locations, objects and buildings may be subjected to:

Type	Maximum Jet Blast
People	
Passengers	60 km/h
Personnel working near an aeroplane	80 km/h
Locations	
Main public areas where passengers have to walk and people are expected to congregate	60 km/h
Minor public areas where people are not expected to congregate	80 km/h
Light aeroplane parking areas	Not greater than 80 km/h
Public roads - speed limit 80 km/h or more	50 km/h
Public roads - speed limit less than 80 km/h	60 km/h
Objects and Buildings	
Apron equipment	80 km/h
Building and other structures	100 km/h

For the jet blast template for each aircraft type, see *Appendix C – Aircraft Jet* Blast Templates.

Dispensations

In general, dispensations are not granted to the site restrictions (see *Appendix A – Site Locations and Restrictions*) as these restrictions are in place to satisfy airport environmental concerns and noise strategies with regard to the existing infrastructure.

However, in the case of an urgent operational requirement, a dispensation may be granted by the ARO, Security and Compliance Officer or Manager Operations in liaison with the Tower Supervisor. The dispensations that may be granted are as follows:

Site	Aircraft	Not Exceeding	Power
1 & 6	General aviation piston-engine aircraft	MTOW: 5700 kg	Up to take off power
1A	General aviation turbine powered aircraft	MTOW: 5700 kg	Up to take off power
Bay in Use	RPT aircraft (fault finding)	N/A	Not exceeding idle power

Notifications Prior to Engine Ground Runs

All required notifications must be completed prior to commencing the engine ground run.

NOTAM Requirements

NOTAMs only need to be initiated if the engine ground run exceeds 15 minutes in operationally significant areas (e.g. Runway 12/30, Taxiway Alpha).

If a NOTAM is required, see the *Notice to Airmen (NOTAM)* procedure.

Notification to ATC

If the engine ground run is to be conducted during ATC operational hours, the maintenance organisation must notify ATC prior to conducting the engine ground run as follows:

1. Contact the ATC on frequency 118.3 MHz and:
    1.1. Advise that approval has been received from ASA for the engine ground run.
    1.2. Request taxi/tow approval.
2. On arrival at the approved site, advise ATC prior to commencing the engine ground run.

Notification to Stakeholders

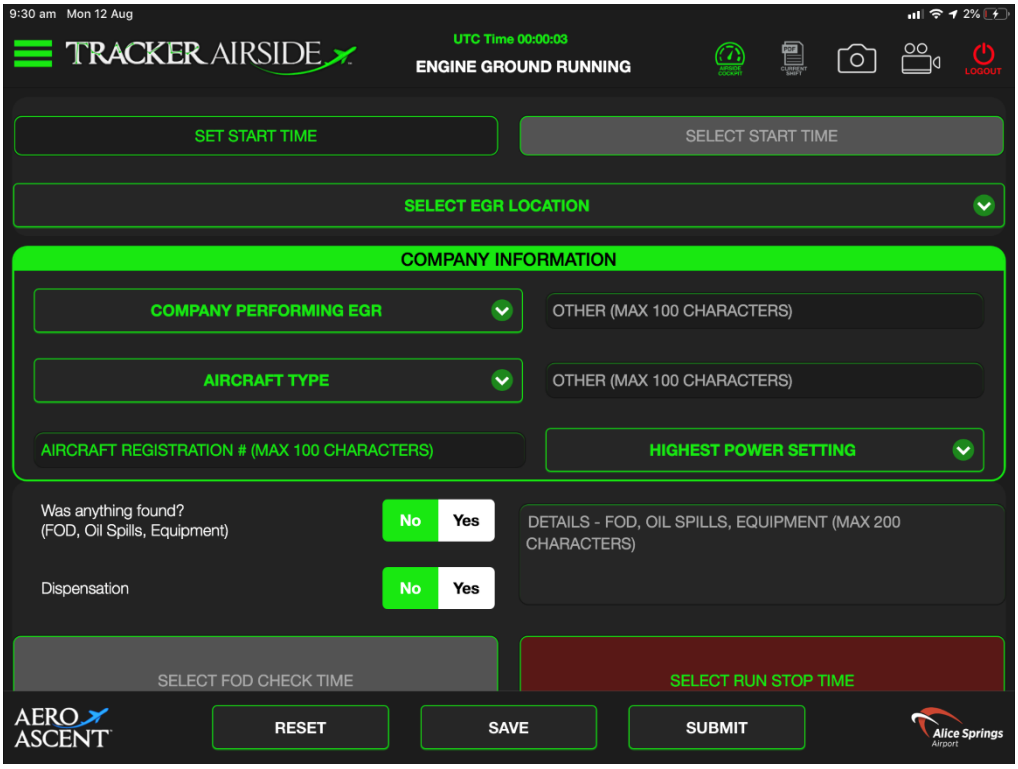
Where required, stakeholders are to be informed of engine ground runs. For example, if an engine ground run will be conducted in Position 3, which is next to the Chartair building, Chairtair should be notified by email.

Monitor and Record Engine Ground Runs

All engine ground runs must be recorded in Tracker Airside by the ARO.

To monitor and record an engine ground run:

1. Record the engine ground run in Tracker airside (before it starts, if possible):
    1.1. Under **AIRSIDE ACTIVITIES**, select **ESCORTS, ENGINE GROUND RUNNING & PARKING**.
    1.2. Select **ENGINE GROUND RUNNING**. The following screen will appear:



    1.3. Select **SET START TIME** or **SELECT START TIME**.
    1.4. Click the drop down arrow next to **SELECT EGR LOCATION** and select the location where the engine ground run will occur.
    1.5. Select the **COMPANY PERFORMING EGR** and the **AIRCRAFT TYPE**.
    1.6. Type the **AIRCRAFT REGISTRATION #**.
    1.7. Select the **HIGHEST POWER SETTING** that will be used during the engine ground run.
2. After the engine ground run, select the **SELECT FOD CHECK TIME** button.
3. Check the area where the engine ground run was conducted. Check for FOD, spills, equipment left behind and damage.

4. Record the outcome of this check in Tracker Airside, selecting **No** or **Yes** for each question:

   4.1. If you selected **Yes** to **Was anything found?**, record what was found in the **DETAILS** section. Any FOD or spills should also be recorded under **FOREIGN OBJECT DEBRIS** or **SPILL TREATMENT** in Tracker Airside. Ensure any FOD is removed and spill cleaned up (see the *Spills Response* procedure).

   4.2. If you selected **Yes** to **DISPENSATION**, record the details of the dispensation in the **DETAILS** section.

   4.3. Select the **SELECT RUN STOP TIME** button.

   4.4. Select **SAVE**.

   4.5. Select **SUBMIT**.

Complaints Regarding Engine Ground Runs

Airport tenants may make a complaint about an engine ground run by doing one of the following:

- Contacting the ARO on duty on 0402 088 154.
- Emailing the Manager Operations with a formal complaint.

ASA will respond to any complaints received. This may include reviewing these procedures.

Supporting Information

Legal and Other Requirements

The following legislation, regulations and other documents apply to these procedures:

- Airports (Environment Protection) Regulations 1997 (Regulations 4.06 and 7.03)
- MOS 139 – Section 6.6.2

Supporting Documentation

These procedures should be read in conjunction with the following documents:

- ASA Master Plan (Environment Strategy)

Change History

Review Date	Amendments	Changes made by
December 2019	Existing procedure (AV-POL-01 Aircraft Engine Ground Runs) re-written and formatted	Sally Poyzer of Poyzer Consultancy Services, in consultation with Neil Shay

Appendix A – Site Locations and Restrictions

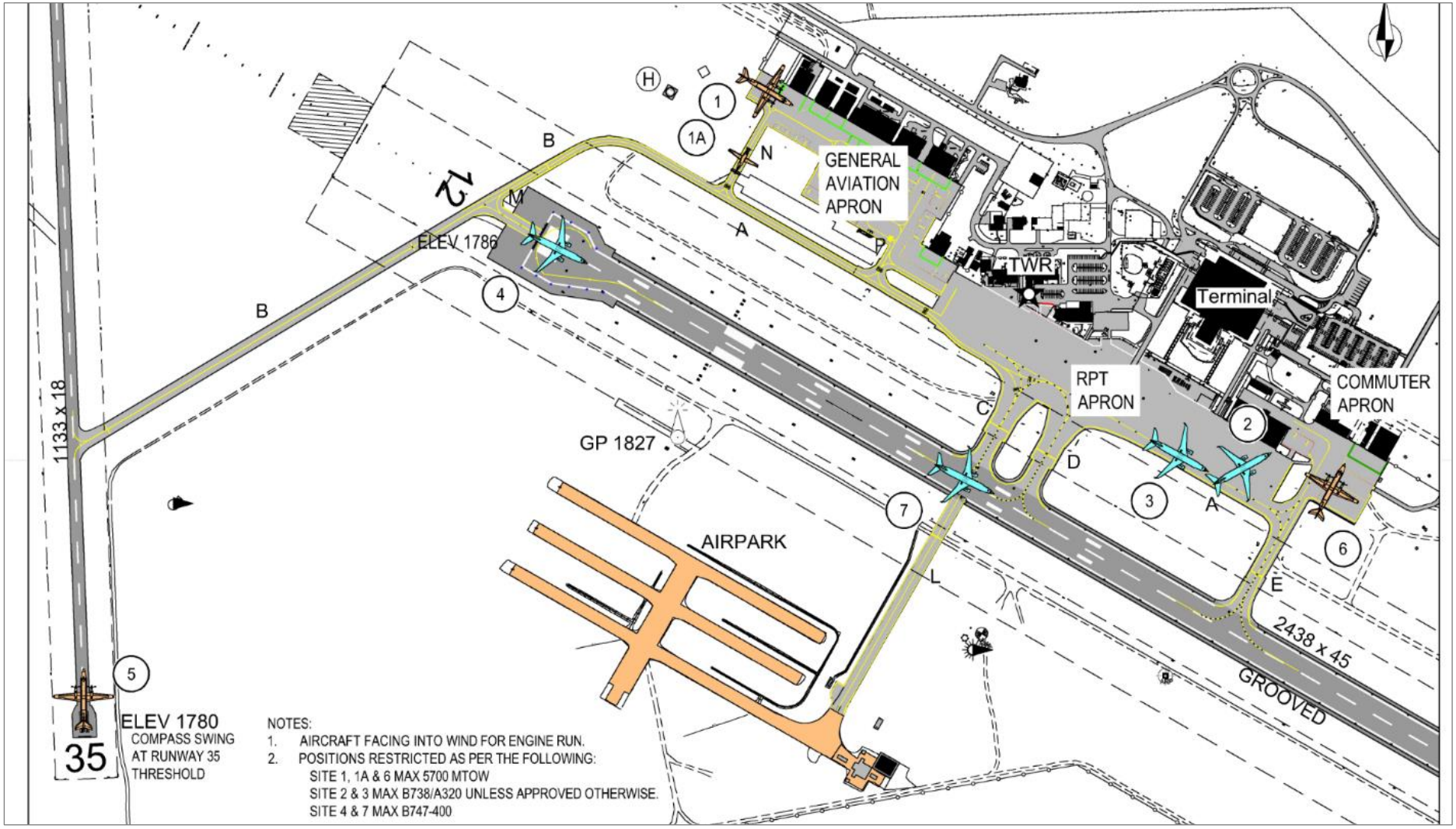
Site	Location[4]	Required Approvers	Power and Time Limits		Site Restrictions		Written Notice Required
			Hours & Power	Time Limits[5]	Weight	Other Restrictions	
1	Western GA, opposite vacant lot next	At pilot/ maintenance organisation's discretion	All	No limits	MTOW: 5700 kg	• Pre-flight run-ups only • Piston-engine aircraft only	None
1A	TWY N	ATC	All	No limits	MTOW: 5700 kg		None
2	Bay 2	ASA and ATC	Daylight hours only	No limits	Max: B738/A320		48 hours
			Up to 50% power	No limits			
3	TWY A4 (Adjacent to Bay 2)	ASA and ATC	Daylight hours only	No limits	Max: B738/A320		48 hours
			Idle power	No limits			
			Up to 50% power	No limits			
			Over 50% power (before 2pm CST)	Maximum 3 minutes, but not during major RPT times			
			Over 50% power (after 2pm CST)	No limit			

[4] See *Appendix B – Site Plan* for a map showing the location of each site.

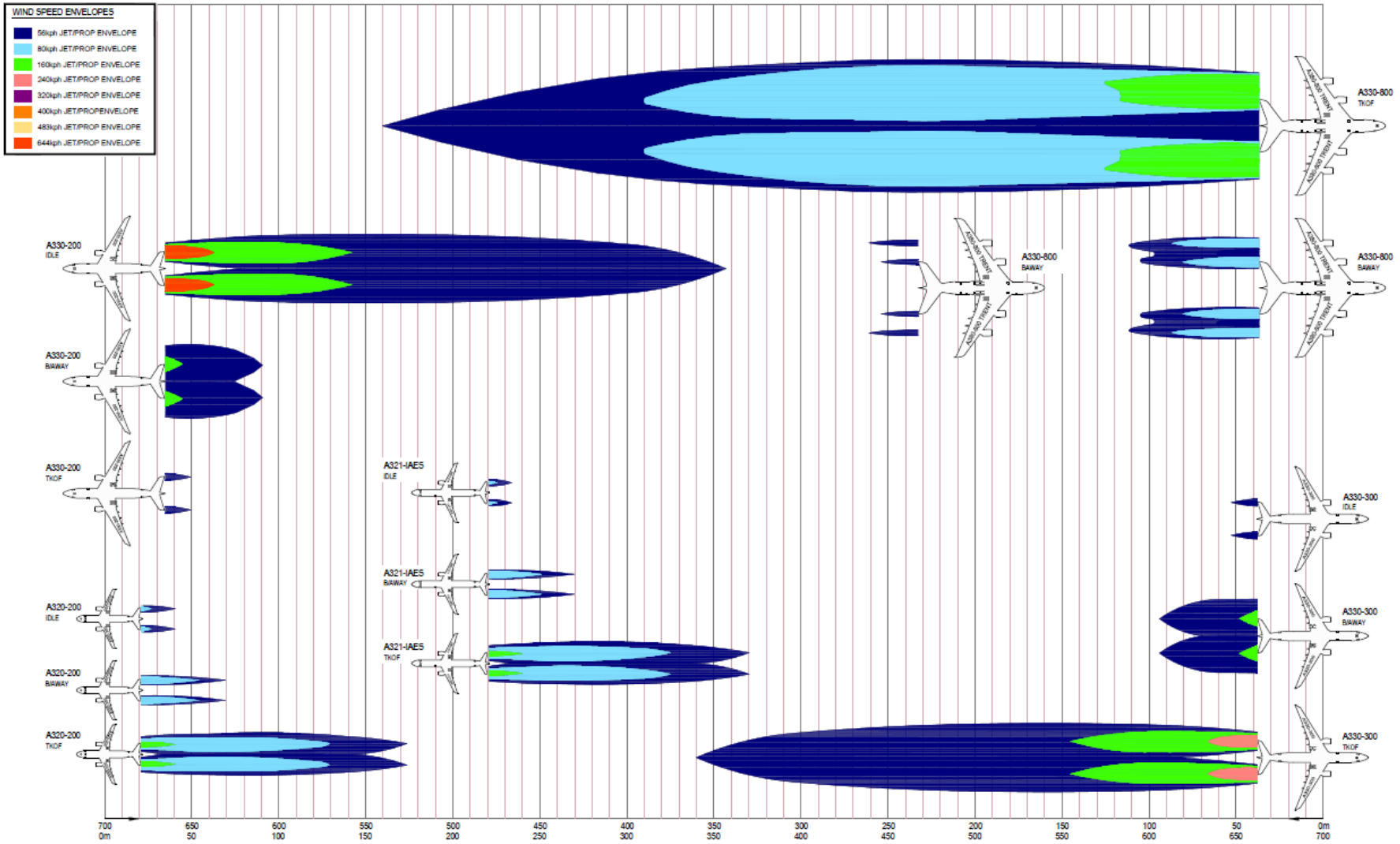
[5] The total time allowed is the cumulative time at the relevant throttle settings (e.g. 'Maximum of 15 minutes' means a total time above idle throttle setting of no more than 15 minutes).

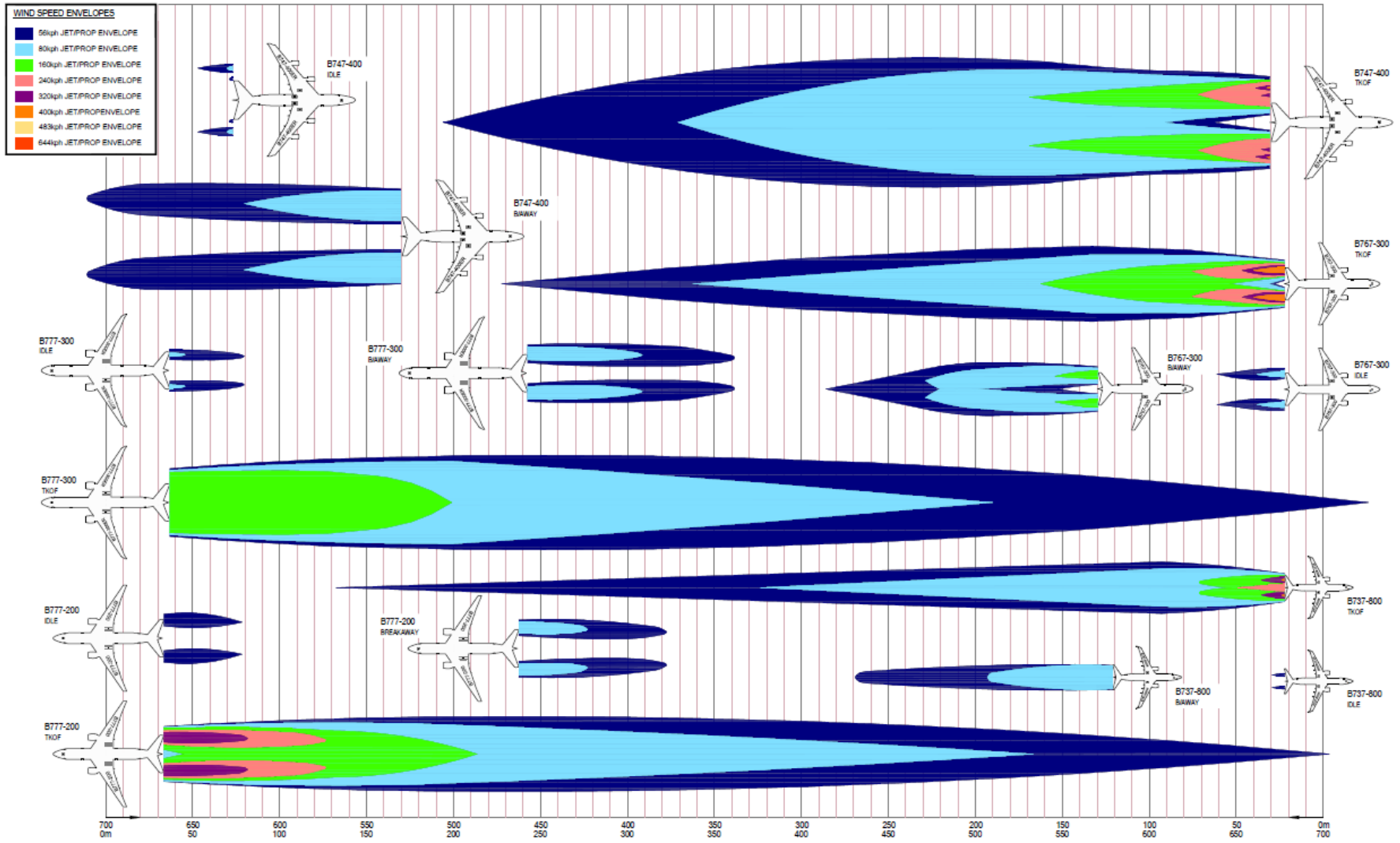
Site	Location[4]	Required Approvers	Power and Time Limits		Site Restrictions		Written Notice Required
			Hours & Power	Time Limits[5]	Weight	Other Restrictions	
4	RWY 12 THR or RWY 30 THR	ASA and ATC	Daylight hours, over 50% power	Maximum 15 minutes	Max: B747-400	• Heading to align with runway • See *Jet Maintenance on Runways* on page 5	48 hours
5	RWY 35 Compass Swing	ATC ASA	Daylight hours, over 50% power	No limit	Max: METRO 23	• Heading as required	None
6	Commuter Apron/Bay 10	ASA	Over 50% power	No limit	MTOW: 5700 kg		None
7	RWY 12/30 between L and C/D	ASA and ATC	Daylight hours, over 50% power	Maximum 15 minutes	Max: B747-400	• Heading to align with runway • See *Jet Maintenance on Runways* on page 5	48 hours

Appendix B – Site Plan



Appendix C – Aircraft Jet Blast Templates




WIND SPEED ENVELOPES
56kph JET/PROP ENVELOPE
80kph JET/PROP ENVELOPE
160kph JET/PROP ENVELOPE
240kph JET/PROP ENVELOPE
320kph JET/PROP ENVELOPE
400kph JET/PROPENVELOPE
483kph JET/PROP ENVELOPE
644kph JET/PROP ENVELOPE
B747-400 IDLE
B747-400 TKOF
B747-400 BAWAY
B767-300 TKOF
B777-300 IDLE
B777-300 BAWAY
B767-300 BAWAY
B767-300 IDLE
B777-300 TKOF
B737-800 TKOF
B777-200 IDLE
B777-200 BREAKAWAY
B737-800 BAWAY
B737-800 IDLE
B777-200 TKOF
700 0m
650 50
600 100
550 150
500 200
450 250
400 300
350 350
300 400
250 450
200 500
150 550
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