NORWICH AIRPORT LIMITED

OPERATING FRAMEWORK AGREEMENT

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CONTENTS

1. PURPOSE & SCOPE

This document is intended to identify the operational procedures in place at Norwich International Airport for the purposes of demonstrating ongoing compliance with local planning consents and also to provide a transparent operational policy for use by the Airport Consultative Committee (ACC), when considering the integration of the airport's operations with the needs of the local community.

This document will cover the operational aspects of airport activity. This will include the airport Terminal Building and all airside operations that may have an effect on the local community. It will not cover areas of the airport operation that do not occur on airport property, excepting local airborne flying and airspace considerations. It will not necessarily cover any operational issues which are not under the direct control of Norwich Airport Limited (NAL).

2. INTRODUCTION

Operating under national requirements, NAL has been actively participating in an integrated approach to airport development with the local community through the ACC.

This document is intended to detail the operating procedures currently being followed by NAL. Most of these procedures are regulated by the Government through the CAA, the DfT or other regulatory bodies. Where any such regulations do not exist, NAL will adopt industry best practice as Company policy.

NAL is conscious of its need to be proactive in adopting a 'good neighbour' approach and recognises the need to plan and develop the airport operation and infrastructure in a strategic manner to the benefit of the airport business, its customers and the local community.

Whilst many of the procedures documented are required and policed by the regulatory bodies, any of those that are not, will only be amended with the express agreement of the ACC. Where regulatory bodies enforce operational or procedural change the ACC will be advised, giving as much notice as is practically possible.

This document will be reviewed at least biennially through the ACC to ensure accuracy and compliance.

3. TERMINAL BUILDING

The Terminal Building (Terminal) is normally opened daily at 0415. The terminal building may open earlier or later than 0400 depending on the nature and timing of the first scheduled departures of the day. The scheduled departure or arrival time of the first aircraft requiring the use of the terminal building and associated taxiways will not be before 0600. All passenger aircraft being operated for hire or reward, have to use the Terminal as a matter of routine, if they weigh in excess of 10 metric tonnes; as these aircraft are required to use the Critical Part (previously known as the 'Restricted Zone') which exists on the main apron servicing the Terminal. NAL is able to instigate temporary Critical Parts elsewhere on the airfield to allow parking away from the Terminal.

The Terminal closes after the last passenger has left the building on a daily basis. Routinely the last scheduled flight arrives around 2130, thus the Terminal normally closes around 2150. The terminal maybe open later for delayed flights. Flights are not scheduled to arrive after 2300.

Full emergency evacuation procedures are documented for the terminal, and the building is fitted with an emergency alarm system.

4. LATE FLIGHTS

A late flight is defined as a flight which wishes to operate outside of normal published operating hours. NAL does not plan to operate commercial transport movements which arrive or depart between 2300hrs and 0600hrs. However, the Airport is allowed to accept late flights in certain circumstances, these are set out in the conditions attached to planning permission ref 05/00697/F.

In addition to this, a number of flights (those which do not use the Terminal and associated taxiways) are not covered by planning control through the above planning permission; these flights may utilize the Airport's runway and non-terminal taxiways, but are covered by planning control under third party planning permissions. This specifically applies to aircraft using the Business Aviation Centre (BAC) facilities, under planning permission ref 10/01119/F; where the same planning controls are applied to flights, as for the Terminal, and are enforceable against the operator of that facility, together with NAL as landowner and airport operator.

This note sets out a general policy towards late flights, an agreed understanding of the effect of the planning conditions and also proposes a voluntary arrangement for limiting the number of late flights which are not covered by planning control.

NAL actively discourages late flights. This is achieved by an escalating scale of extension fees for landing/departing. NAL does not encourage late flights for the following reasons:

- They create major operational rostering problems both on the day in question and the subsequent day.

- They disturb our neighbours and therefore potentially compromise the goodwill of local communities which is required for future airport development.

However, as an airport business, NAL also recognises the needs of its customers. Furthermore, to retain credibility within the industry, NAL has to ensure that it operates in such a way as to appear reasonable to the aircraft operators, to the extent that they can continue sustainable business with NAL. This approach is essential both to the local people who earn a living from direct and indirect employment at the airport and also to the regional business community.

NAL will not routinely accept any arriving late flight requests beyond 0130 or departing late flights beyond 0115, as Air Traffic Control (ATC) cover cannot be routinely achieved beyond this time.

Air ambulance and search & rescue (SAR) flights on emergency priority, can legally use the airport without ATC during hours of closure, using the airfield on an 'unlicensed' basis. NAL allows this due to the emergency nature of the flights, subject to appropriate risk assessment and that they are in the interests of the local community. These are very rare events.

NAL also provides 24/7 call-out availability for North Sea helicopter operations. This is provided only for emergency scenarios where the immediate evacuation of an offshore installation is required, or where the reason could be commercial, requiring a major intervention and not limited to safety of human life. These are deemed as rare events.

a. Flights covered by Planning Control

Condition 10 of planning permission ref 05/00697/F states that "No aircraft shall make use of the extended Airport terminal facilities or associated apron or taxiways to facilitate a take-off or landing between 2300 and 0600 hours, except:

(a) in an emergency where there is a risk to life and limb;

(b) an aircraft for reasons of safety requires urgent or immediate landing;

(c) diversion from another Airport by reason of bad weather or an accident where, in the opinion of the Captain of the diverting aircraft, no other suitable airport is available;

(d) provision of essential safety services to North Sea oil and gas installations, required to prevent risk to life and limb and/or preclude a damaging environmental incident which cannot reasonably be operated between 0600 and 2300 hours;

(e) the unavoidable delay to local passengers of scheduled and charter flights. Such movements will only be authorised by a Norwich Airport Executive Director.

An almost identical form of words applies to aircraft utilising the Klyne BAC on the western side of the airport under condition 7 of planning permission ref 10/01119/F. The restrictions under those planning conditions refer to the BAC only (not the independent use of the hangars and associated aprons) and are applicable against the operator of those facilities together with NAL as landowner and airport operator.

In practice there have been very few incidents covered by conditions a-d) in recent years and their interpretation has never been an issue. Where emergency circumstances are encountered it is recognised that safety must be of paramount concern and there is considered to be no need for further interpretation.

However, there have been a number of incidents where late flights have taken place and their acceptability under condition e) has been questioned. The following interpretation of the condition attempts to describe the circumstances where such flights are considered acceptable. It does not seek to alter the condition itself:

Late flights will be accepted under condition (e) where;-

- The departure of an outbound aircraft carrying local passengers, scheduled to leave prior to 2300hrs, has been delayed due to the late arrival of an inbound flight.

- The departure of an outbound aircraft not carrying local passengers, scheduled to leave prior to 2300hrs, has been delayed due to the late arrival of an inbound flight. This will only be acceptable where, had the extension not been granted, the inbound leg would have been diverted thereby significantly inconveniencing local inbound passengers.

- The late arrival of an inbound aircraft, scheduled to arrive prior to 2300hrs, carrying local passengers.

NAL will not accept late flights from non-locally based companies that are not scheduled flights under condition (e).

For the purposes of this document only, a scheduled flight is defined as one which appears on the flying programme at least one week in advance and which is carrying fare paying passengers.

NAL will notify the local planning authority of each late flight and the reason for it as soon as practicable after it has taken place. This shall be by way of email notification of each individual event together with a monthly summary schedule.

NAL will endeavour to avoid late flights by avoiding scheduling arrivals after 2200 that need to reposition.

b. Flights not covered by Planning Control

For the reasons set out above, NAL seeks to discourage late flights even where these are not affected by planning restrictions. However, exceptionally, at the discretion of the NAL General Manager (GM) or Director, NAL will accept late flights from locally based companies that are not scheduled flights, provided they do not require using the main Terminal and associated aprons or taxiways as specified in Condition 10 of planning permission ref 05/00697/F.

For the avoidance of doubt the associated aprons and taxiways referred to in the above planning condition are shown on the airfield map in on page 10.

Specifically areas from and to which late movements may be operated from are:

Western Apron (other than the BAC where restricted by its own planning controls)
Eastern Apron
Northern Apron
Stands 7 & 8 (operating via C taxiway only)

NAL insists that aircraft operating outside of planning control will need to demonstrate a genuine business or safety need to do so and will keep noise to a minimum. Engine testing, test flights and pleasure trips will not be accepted as late flights. NAL will monitor the numbers of these flights and report those numbers to the ACC as a standing agenda item. Any noise complaints received will be directly correlated and assessed.

Any aircraft operating in an emergency situation will not be considered to be operating under the terms of this agreement and will be accepted on humanitarian grounds.

5. AIRFIELD OPERATION – GENERAL

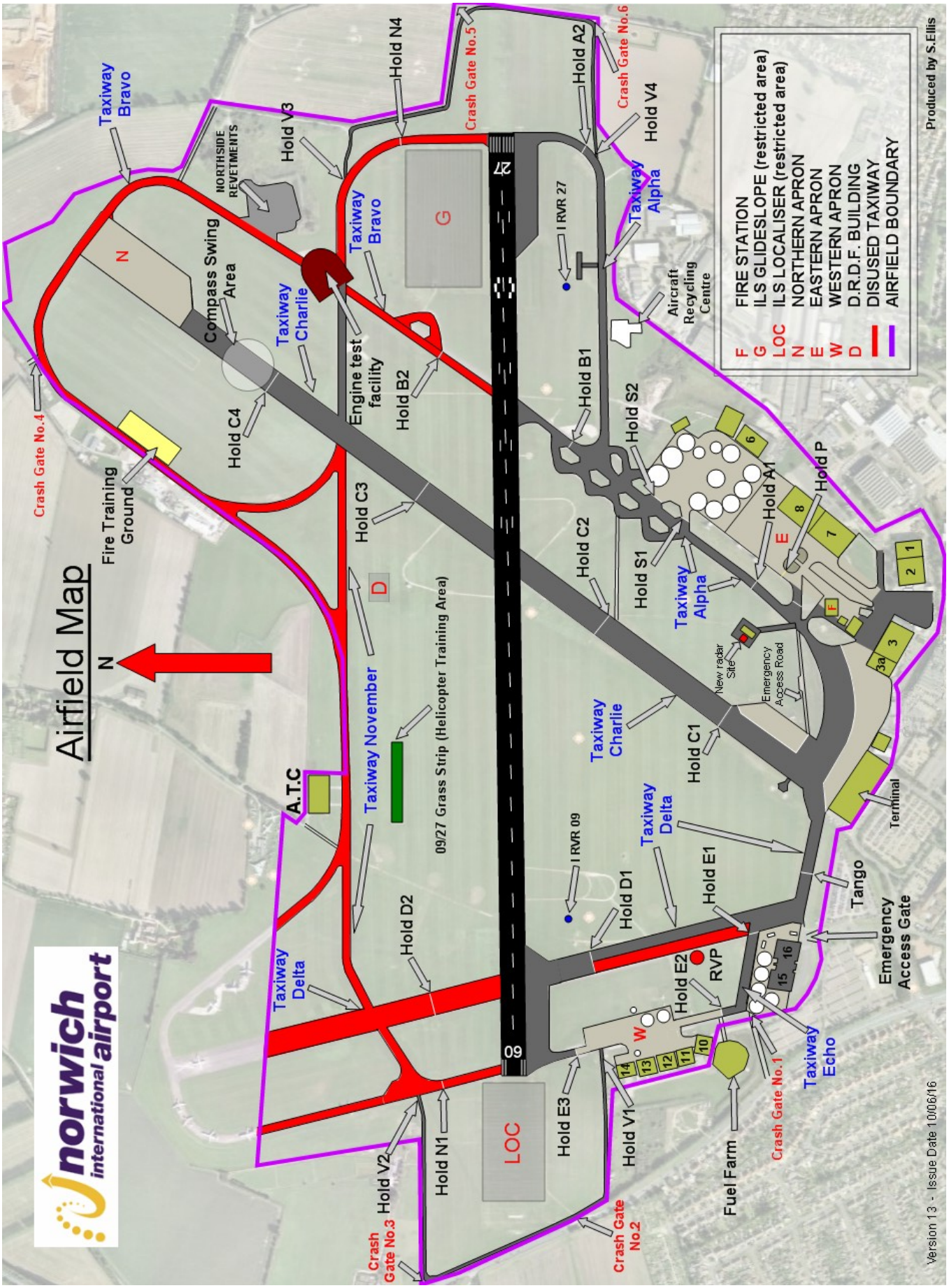
Since the closure of Runway 22/04 NAL operates only Runways 27 and 09. Runway 27 is used approximately 80% of the time mostly because it is predominantly aligned into the prevailing wind. Fixed wing aircraft must use these runways. Helicopters are permitted to land and take-off from various other parts of the airfield under certain conditions and procedures. These areas include the Western Apron, and the 09/27 Grass runway/Helicopter training area to the north side of the airfield. All areas are approved for use by the CAA. No changes to the operation are allowed without CAA approval.

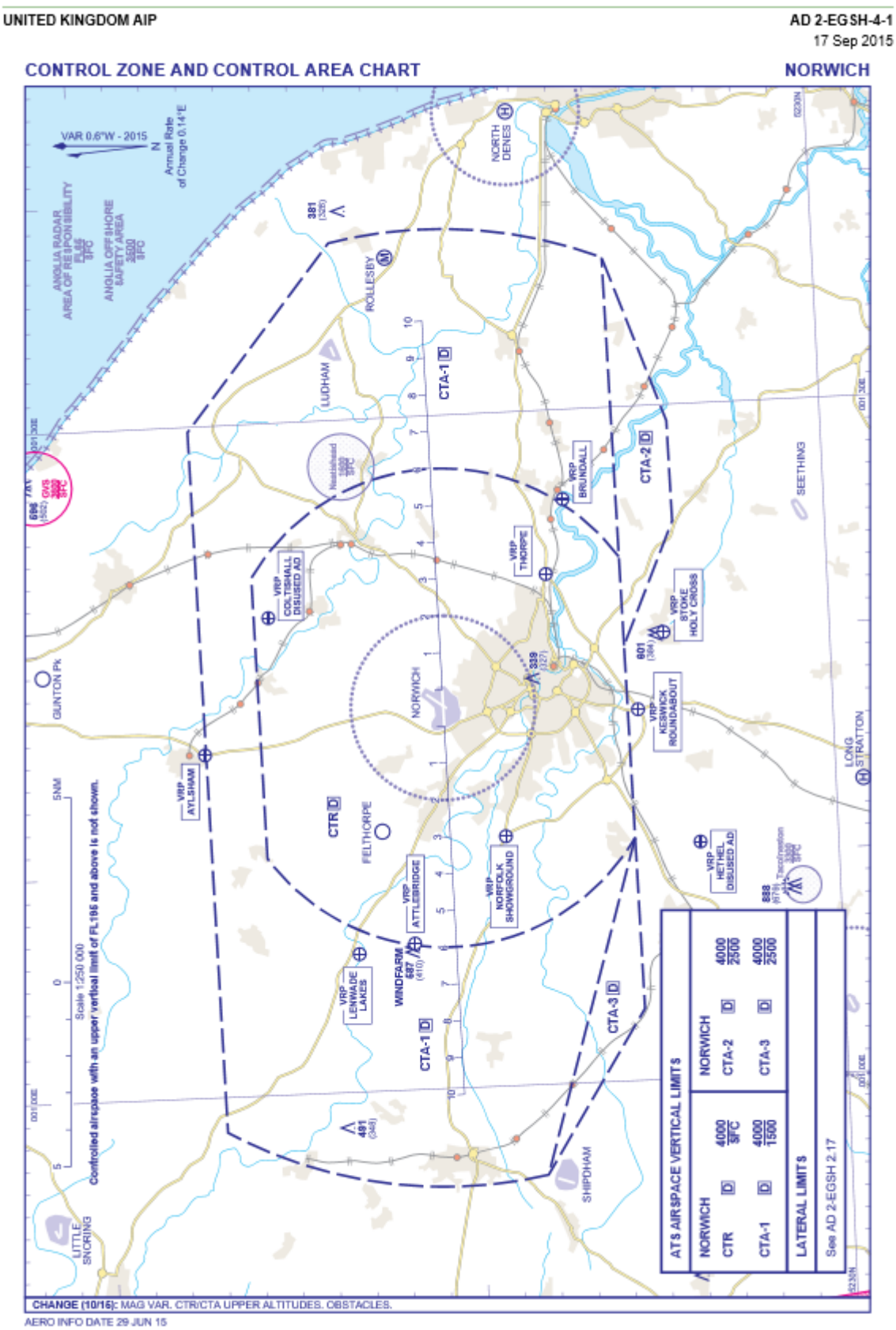
The airside operation is conducted under the terms of a Safety Management System (SMS). Any procedural or operational changes are fully risk assessed by NAL.

See attached site plan.

6. CONTROLLED AIRSPACE

Controlled Airspace was introduced at Norwich on 8th March 2012. The controlled airspace consists of a class D Control Zone (CTR) 6nm radius from the airport from surface to Flight Level altitude 4000 ft. There are two Control Areas (CTA 1-3) both to the east and west which are from 6nm to 12.5nm and range from altitude 1500 ft. to altitude 4000 ft. All aircraft are required by law to obtain an air traffic control clearance prior to entry. The purpose of the Controlled Airspace is to provide a greater degree of protection to passenger carrying flights during the critical arrival and departure phases of flight. All traffic within the lateral and vertical confines is known to Norwich ATC. See attached maps.


Airfield Map
N
Crash Gate No.4
Fire Training Ground
Taxiway Bravo
NORTHSIDE REVETMENTS
Hold V3
Hold N4
Crash Gate No.5
Hold A2
Crash Gate No.6
Hold V4
Taxiway Alpha
Compass Swing Area
Taxiway Charlie
Taxiway Bravo
Engine test facility
Hold B2
Hold C4
Hold C3
Hold B1
Hold S2
Aircraft Recycling Centre
Hold C2
Hold S1
Hold A1
Hold P
Taxiway Alpha
Taxiway November
09/27 Grass Strip (Helicopter Training Area)
A.T.C
Taxiway Charlie
Hold C1
New radar Site
Emergency Access Road
Taxiway Delta
Hold D2
Hold D1
Hold E1
Terminal
Tango
Emergency Access Gate
Taxiway Delta
Hold E2
RVP
Hold V2
Hold N1
Hold E3
Hold V1
Crash Gate No.3
Crash Gate No.2
Fuel Farm
Crash Gate No.1
Taxiway Echo
09
27
I RVR 09
I RVR 27
LOC
F FIRE STATION
G ILS GLIDESLOPE (restricted area)
LOC ILS LOCALISER (restricted area)
N NORTHERN APRON
E EASTERN APRON
W WESTERN APRON
D D.R.D.F. BUILDING
DISUSED TAXIWAY
AIRFIELD BOUNDARY
Produced by S.Ellis
Version 13 - Issue Date 10/06/16


UNITED KINGDOM AIP
AD 2-EGSH-4-1
17 Sep 2015
CONTROL ZONE AND CONTROL AREA CHART
NORWICH
VAR 0.6°W - 2015
Annual Rate of Change 0.14°E
ANGLIA RADAR AREA OF RESPONSIBILITY FL66 SFC
ANGLIA OFFSHORE SAFETY AREA 3500 SFC
NORTH DENES
ROLLESBY
LUDHAM
CTA-1
CTA-2
CTA-3
CTR
VRP BRUNDALL
VRP THORPE
VRP COLTISHALL DISUSED AD
VRP STOKE HOLY CROSS
VRP KESWICK ROUNDABOUT
VRP AYLSHAM
VRP ATTLEBRIDGE
VRP NORFOLK SHOWGROUND
VRP HETHEL DISUSED AD
VRP LENWADE LAKES
WINDFARM
GUNTON PK
FELTHORPE
NORWICH
SEETHING
LONG STRATTON
SHIPDHAM
LITTLE SNORING
Controlled airspace with an upper vertical limit of FL195 and above is not shown.
Scale 1:250 000
5NM
ATS AIRSPACE VERTICAL LIMITS
NORWICH
CTR D 4000 SFC
CTA-1 D 4000 1500
NORWICH
CTA-2 D 4000 2500
CTA-3 D 4000 2500
LATERAL LIMITS
See AD 2-EGSH 2.17
CHANGE (10/16): MAG VAR. CTR/CTA UPPER ALTITUDES. OBSTACLES.
AERO INFO DATE 29 JUN 15

7. HELICOPTER FLYING CONSIDERATIONS

The following pages are extracted from the UK Aeronautical Information Publication (AIP) and the NAL ATC procedures document. They identify helicopter procedures in force at NAL. Primarily they are designed for safety, however environmental considerations such as noise and visual intrusion have been considered part of the CAA approval process along with local planning restrictions.

a. North Sea Helicopters

The levels which these aircraft fly along the Helicopter Main Routes (HMRs) are dictated by icing levels as the aircraft using these routes do not have de-icing capability**.** The HMRs now start at the coast and no longer exist over land since the Controlled Airspace was established at Norwich on 8th March 2012. This was a decision taken by the CAA Directorate of Airspace Policy. It should also be noted that whilst these procedures are documented and generally followed, NAL ATC has absolutely no enforceable control over these procedures due to the existing operating environment outside Norwich Controlled Airspace.

b. Helicopter Main Routes (HMR)

Helicopter Main Routes are routes typically and routinely flown by helicopters operating to and from off-shore destinations and are promulgated for the purpose of signposting concentrations of helicopter traffic to other airspace users. HMR promulgation does not predicate the flow of helicopter traffic. Whilst HMRs have no airspace status and assume the background airspace classification within which they lie (in the case of the Southern North Sea, Class G), they are used by the air navigation service provider (NATS Ltd/Anglia Radar) and helicopter operators for flight planning and management purposes.

HMRs have no lateral dimensions. Vertically the HMRs over the Southern North Sea extend from 1500 ft amsl to FL 60 (inclusive) except that:

(a) Anglia Radar will not normally allocate cruising levels above FL 40 on HMRs in the Southern North Sea beneath EG D323B and EG D323C.

(b) Where helicopter icing conditions or other flight safety considerations dictate, helicopters may be forced to operate below 1500 ft amsl. In these circumstances, where possible, pilots should endeavor to follow HMRs and advise the ATSU of the new altitude giving the reason for operating below 1500 ft amsl.

Compliance with the HMR structure is not compulsory. In the general interests of flight safety, however, civil helicopter pilots are strongly encouraged to plan their flights using HMRs wherever possible.

Other traffic operating in proximity of these routes are advised to maintain an alert look out, especially in the Off-shore Safety Area.

Additional details available in the UK AIP EG ENR 1.6

See attached map.

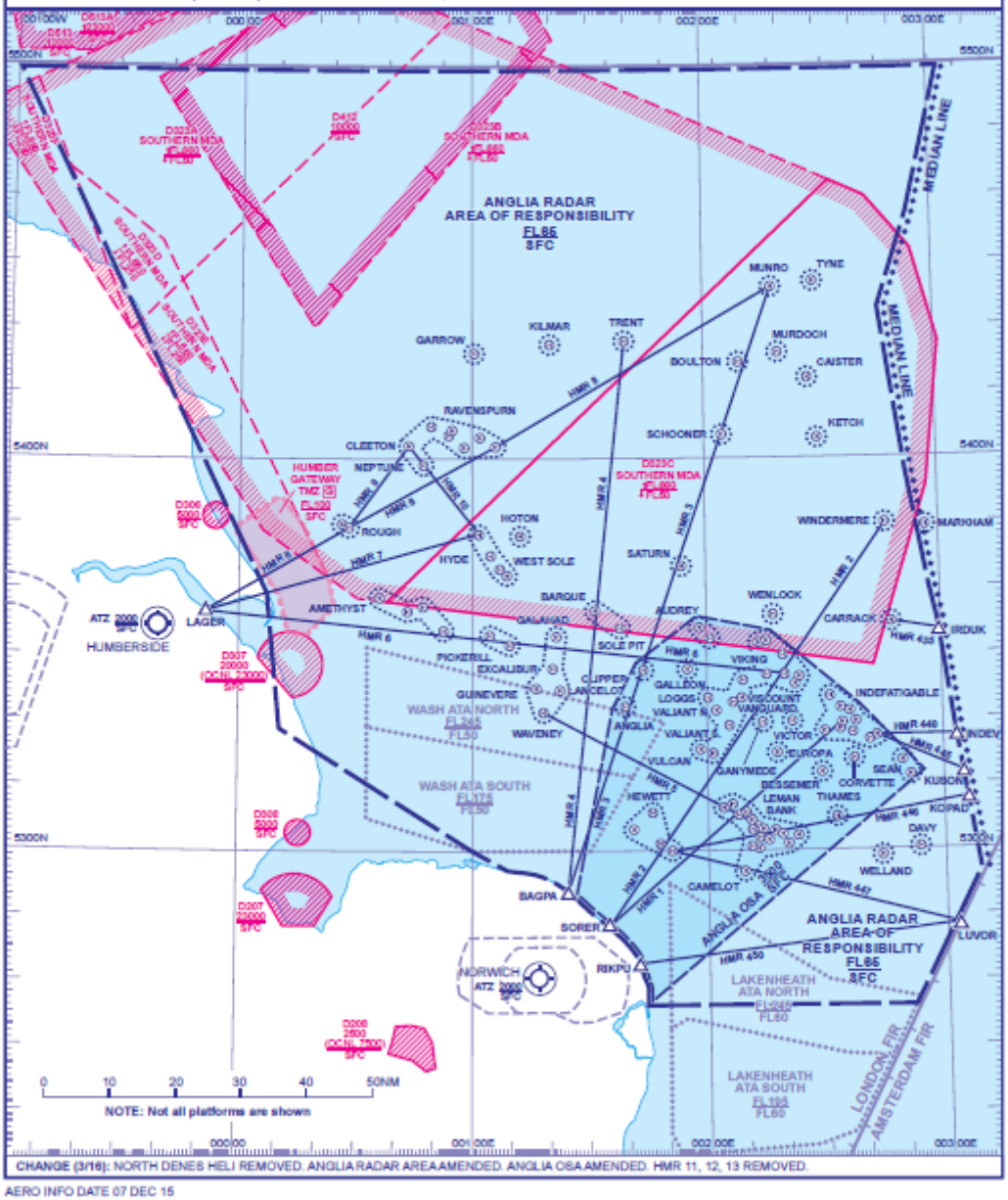
SOUTHERN NORTH SEA - ABERDEEN ATSU (ANGLIA RADAR) AREA OF RESPONSIBILITY AND ANGLIA OFFSHORE SAFETY AREA (OSA)

NOTES

1. All HMRs beneath EGD323C, EGD323B and the Lakenheath ATA North are restricted to FL40 unless cleared by Anglia Radar.
2. Helicopters will normally plan to fly at the following en-route altitudes:-

Outbound (land to sea)	Inbound (sea to land)
2000'ALT & 3000'ALT	1500'ALT & 2500'ALT

Above Transition Altitude (3000'ALT) aircraft should conform to Quadrantal Rule.



AERO INFO DATE 07 DEC 15

c. Air Ambulance, Search & Rescue, Saxonair and Occasional Helicopters not based at Norwich Airport

The nature of the flights means that that the flight profile is dynamic according to the task being conducted.

8. ALL FLYING – NOISE ABATEMENT PROCEDURES

The following general noise controls are in place at Norwich International Airport, published in the UK AIP (Aeronautical Information Publication) EGSH AD 2.21 and enforced by ATC:

General

(a) Operators of all aircraft using Norwich Aerodrome are to ensure at all times that aircraft are operated in a manner calculated to cause the least disturbance practicable in the areas surrounding the aerodrome.
(b) When taking off, aircraft shall climb as steeply as minimum engine noise settings allow and when approaching to land, without the assistance of ILS, shall follow a descent path which will not result in their being at any time lower than the normal 3° glide path.

Arrivals

(a) Pilots of arriving jet aircraft and turbo-prop aircraft and aircraft in excess of 5700 kg should arrange their flights to be established on final approach to a runway not below 1500 ft aal.

Departures

All Aircraft Other than IFR Helicopters to the Southern North Sea (see below):

(a) On departure from any runway, all aircraft are to climb straight ahead to 1000 ft aal before turning, unless instructed otherwise by ATC.
(b) On departure aircraft less then 5700 kg AUW may be permitted to make a turn to the north of the aerodrome at 500 ft aal.

IFR Helicopter Departures Southern North Sea

(a) Minimum Noise Routings are ONLY used by departing helicopters on route to the Southern North Sea operating IFR. They have no formal status other than to minimise the noise nuisance in the immediate area of the airport. The Minimum Noise Routings for the various runways are as follows:

(i) Runway 27: Power climb straight ahead, at 0.5 DME or 1000 ft whichever occurs first, turn right onto track 025° and climb to 2000 ft. At 1.5 DME turn onto track or as directed.

(ii) Runway 09: Power climb straight ahead to 2000 ft, at 2 DME turn left onto desired track or as directed.

Note: The above routings are compatible with normal ATC practice. In individual cases they may be varied owing to operational circumstances. The use of the Helicopter Noise Preferential Routings specified is SUPPLEMENTARY to the noise abatement techniques as used by piston engined, turbo-prop and turbo-jet aircraft.

Procedures for GA Aircraft and Training

As per UK AIP EGSH AD 2.20; Circuits will normally be to the north to avoid over flying the city of Norwich.

Training

(a) Circuit and Instrument training is only available by prior arrangement with ATC and subject to local traffic and the runway in use. Normal circuit heights are 1000 ft QFE for aircraft up to 5700 kg and 1500 ft QFE for aircraft over 5700 kg.

9. COMPLAINTS

All complaints are directed as follows:

The number to call is:	General Complaints 01603 428716 Noise Complaints 01603 420607
E mail Address:	customer.services@norwichinternational.com
Postal Address:	Customer Services Manager, Norwich International Airport, Amsterdam Way, Norwich NR6 6JA
In Person:	Customer Service Desk

All complaints are logged and referred to the relevant department for comment, followed by a formal reply to the complainant. An investigation report is sent to the complainant. The complaints procedure is set out below:

a. Purpose

To document in a transparent manner the mechanisms and timescales for the making of and dealing with complaints.

b. Scope

All complaints regarding airport activity and service delivery. This will include noise and engine running complaints and any other activity or service provision perceived to be directly affecting the public.

c. Requirements for Compliance

Complainants, including the members of the ACC, must adhere to this procedure to ensure an appropriate investigation and response from NAL in a timely manner.

d. Procedure and Responsibility

It is ultimately the responsibility of the General Manager (GM) to ensure that this complaints procedure is followed.

The PA to the GM is responsible for ensuring that a database is kept for inclusion in the papers of the NAL Board Meetings and the ACC.

All complaints must be made initially via the contact details above. All complaints shall be logged electronically by the Customer Services Manager (CSM) and given a unique reference number. Assigned reference numbers should be in sequential order and by calendar year, for example, the first complaint of 2011 should be referenced 01/11.

Each complaint will be issued with a reference number and an acknowledgement will be made for telephone and e mail complaints. An investigation will be undertaken and a formal response will be sent within 21 days. The CSM should also complete the reference number log to ensure reference numbers are not duplicated. This will be kept in the CSM office. Complaints can be made by e-mail, telephone, by post or in person.

The CSM is responsible for the formal logging of all complaints and ensuring that they are passed on to the relevant departmental Manager or Director for investigation within 24 hours of being received.

The Manager or Director will complete an investigation and forward the findings on the investigation form within 10 days of the complaint to the CSM who will in turn pass on to the GM. The GM will review the evidence and an investigation report will be sent to the complainant within 21 days of the incident and will ensure that any necessary actions are undertaken to avoid repeat occurrences where possible.

If at this stage the complainant or their ACC representative is still not happy with the response of the airport, then the matter shall be formally raised in depth at the next meeting of the ACC where all of the investigation paperwork will be made available to the ACC.

e. Restrictions

During periods of excessive workload or complaints the timelines identified may be extended but only with the express permission of the GM. Failure to follow this procedure may result in a complaint raised at the ACC not being addressed at that meeting until the procedure has been followed. Deliberate failure by NAL staff to adopt this procedure may result in disciplinary action.

f. Records

The complaints database and investigation paperwork shall be kept for a minimum of five years. A review of complaints shall be conducted formally by the ACC when formally notified as an agenda item. The NAL Board will review and consider complaints at the company's board meetings.

10. ENGINE RUNNING

Engine Running is conducted under the terms of the SMS. NAL is now undertaking high power engine runs in in the newly commissioned Engine Test Facility (ETF).

The following is a copy of the new procedures in force:

SMS Procedure 12 - Engine Running Procedures

12.1. Purpose

To ensure procedures are implemented for high, low and idle powered engine runs and that these measures are adhered to at all times. The procedures have been revised for the operation of the new Engine Test Facility (ETF). The ETF is a located at the intersection of the Bravo and November taxiways. The ETF is accessed via the Charlie and November taxiways.

12.2 Scope

This procedure applies to all companies undertaking high, low or idle powered engine runs at Norwich International Airport.

12.3 Requirements for Compliance

In order to meet the requirements of this procedure, the following records must be readily available:

- Air Traffic Control (ATC) – Ground Engine Running Log
- Airfield Operations – Ground Engine Running Log
- KLM UKE – Ground Engine Running Log
- All engine tests shall be carried out in strict accordance with the Norwich Airport Operating Framework Agreement dated 01 August 2012 (or as amended by a later version of that document submitted to and approved in writing by the local planning authority)

12.4 Responsibility

The following are responsible for the completion of specific processes and the retention of associated records:

- Ground Engine Running Log – KLMUK/ATC
- Ground Running Log - fax to Norwich City and Norfolk County Councils – Facilities Manager
- Archiving of Council fax logs – CEO's PA
- Engine Run Approval forms – Airfield Operations Officer (AOO)

12.5 Procedure

Engine Running Authorisation

For all engine runs approval from the AOO and an authorisation code will be required by the operator prior to being giving clearance to start engine running by ATC.

The code will be given by the AOO to the person requesting the engine run approval. The code given will be specific to the engine run being requested and a note of the aircraft registration and the authorisation code will be logged by the AOO and passed to ATC.

If ATC are quoted a code which they have not been informed of by the AOO the engine run will not be permitted and the AOO must be contacted.

Operators will inform the AOO of the expected duration of the requested engine run, authorisation codes are only valid for one engine run. Once the agreed duration for the engine run has expired a new code must be requested from the AOO.

It is recommended that a safety man should be positioned to the side of the aircraft engine running who has some form of communication with the pilot/engineer.

It is recommended that the aircraft wheels should be safely chocked.

Operators should follow their own documented procedures regarding the use a safety man and aircraft wheel chocking

The aircraft brakes shall be applied.

All vehicles not involved in the engine test shall be parked outside the ETF

A trolley fire extinguisher is provided by the airport at the ETF

A spill kit is provided by the airport at the ETF

Aircraft operators are responsible for immediate fire protection. Access shall be maintained to the ETF to facilitate airport RFFS access.

Engine runs will only be permitted during the following hours:

0800-2000hrs Monday to Saturday
0900-2000hrs Sunday, Public Holidays, Bank Holidays
Not at any time on 25th December, unless a test is required to undertaken in a critical situation.

Dispensations:

(i) Unforeseen engine test is necessary for an aircraft larger than a B737-900 or B757-300.

(ii) Wind conditions do not allow the test to take place within the ETF and failure to test would cause adverse and unacceptable logistical disruption to aircraft operation or airport operation

(iii) The ETF is occupied by another aircraft and an engine test is required due to a “critical situation”.

(iv) “Critical situation” is defined as

Ground running consisting of an engine test which is required urgently and could not have been foreseen; and

Is necessary as a matter of public or aircraft safety; and requires the agreement of a Director of Norwich Airport Limited

Once permission has been granted by the AOO, the aircraft can proceed under ATC instruction. Operators, whilst engine running, must maintain a listening watch at all times during the engine running process on the UHF ATC frequency. Ground to aircraft communication must also be maintained at all times.

The Technical Services Manager shall ensure that maintenance of the ETF shall be maintained in accordance with the manufacture's manual.

12.5.1 ATC Log

ATC will log the following *(* = not required for KLMUK Engineering aircraft)*:

- Date
- Start Time
- Finish Time
- Location of Engine Run
- A/C Operator *
- A/C Type
- A/C Reg
- Auth Code
- Reason*
- Nose In / Nose Out
- Maximum Power (Idle/High)
- Duration of High Power Element (Minutes)*

The completed ATC Log will be maintained using the spreadsheet on the Company's 'G Drive': *G:\Airport Engine Running Data* (see sample below) and will be accessible to allow the Facilities Manager to regularly send the relevant data to the local council, in accordance with the Airport's Operating Framework Agreement.

KLMUK Engineering will keep their own log of engine running and are obliged to provide a copy to the Facilities Manager on a weekly basis.

12.5.2 Helicopter Engine Ground Running

Helicopter ground runs lasting more than 15 minutes shall take place at the Engine Test Facility. Approval shall be obtained from the duty Airfield Operations Officer (AOO) who will issue an authorisation code which is required to be given by the operator to ATC prior to being given clearance to start engine running.

If an engine run is required immediately prior to a flight and it is less than 15 minutes duration then it may take place on a heli-spot so long as it is within the operating hours published in the UK AIP or within an approved extension period.

Engine running is not permitted outside the published operating hours.

There is a 5 minute running restriction on the western side of the Western Apron.

12.5.3 High Power Engine Running

Airfield drivers shall be aware that the ETF could be in use and to proceed under caution and anti cols will be displayed by any aircraft running.
Airfield drivers shall not proceed past the ETF when “nose in“ high power runs are in progress. The vehicular route shall be closed as indicated by the warning signage. The RFFS shall request that the engine run is returned to idle should there be a need to transit the area in response to an incident. ATC shall instruct the operator to return the engine power to idle.

All high power engine running is designated to take place in the ETF. Operationally this area requires the aircraft and tug to cross runway 09/27. All personnel are required to call Air Traffic Control (ATC) prior to any movement to and from the ETF in order to gain permission and instruction to proceed. Personnel should hold a current valid manoeuvring area and runway permit. In the event that personnel do not hold a manoeuvring area and a runway permit an escort is required and the (AOO) should be contacted in the first instance to assist with this request.

Operators shall leave the deflectors in the closed position after the completion of high power runs.

The Penstock valve to be closed prior to engine test and opened once test complete by the aircraft operator

Pre engine test FOD check shall be conducted by the aircraft operator prior to an engine test.

The operator conducting the high power engine test, or the Duty AOO in the case of Loganair, shall be responsible for ensuring the vehicular warning signs are correctly displayed as follows:

- For “tail in” tests, the flip signs shall be set to display “CAUTION ENGINE RUNNING IN PROGRESS.”
- For “nose in” tests, the flip signs shall set to display “ROAD CLOSED ENGINE RUNNING IN PROGRESS.”

The warning signs are located on the November taxiway to the west of the ETF and on the roadway to the south and east of the ETF. See Fig 1.

Any damage to the aircraft or ETF shall be reported to the Duty AOO.

The manufacturers Operations and Maintenance Manual is appended to these procedures.

See the manufacturer’s manual for the operation of the deflector. Operators are responsible for the correct operation of the deflector. The deflector shall be left in the closed position at the end of testing.

Start clearance for all engine tests shall be obtained from ATC

The operator shall advise if in a “nose in” or tail in” configuration.

When B737 size aircraft and above are positioned “nose in” in easterly winds, ATC shall not permit a high power engine run to be in progress when the runway is in use. A blocking strip shall be used by the Aerodrome Controller to indicate when a high power engine run has been authorised and shall ensure that the engine test is not at high power before issuing a clearance to use the runway.

Fig 1 Location of Engine Test Facility Warning Signs

12.5.3.1 Planning Permission Requirements

- Planning permission reference 12/01172/F granted on 09 May 2013
- Engine Test is defined as ground running of fixed wing aircraft

(i) which generate a noise of more than 67dB on take-off or which weigh more than 50,000 lbs (TOGW) as categorised in FAA March 2012 database or subsequent amendments to that list and

(ii) where any element of the engine test is high power being 70% of full power or above (with the exception of testing immediately prior to take off)

- High Power is defined as >70% of Full Power
- Maximum of 30 minutes of High Power engine running per hour
- Maximum of 90 minutes per day
- The Duty AOO will keep a running log of the amount of high power engine running being requested and shall not authorise a high power engine test if the limits have been reached unless a critical situation exists and authorised by the Duty Director
- The loudest aircraft permitted is a B737-400 unless an engine test is required in a critical situation.
- No more than one aircraft to be subject to an engine test at any one time within the operational airport unless in a critical situation. In critical situations the duration of all engine tests shall individually count towards the maximum 1300 hours permitted in any one calendar year.
- In the event that two operators require a high power engine test at the same time, the second engine test would only be permitted on the Northern Apron if a critical situation existed and approval would also be required from the Duty Director. If it is not a critical situation then use of the ETF is on a first come first served basis.
- There shall be no engine tests on at least 100 days in any one calendar year. On current levels of demand this is not an issue but will be reviewed on an annual basis by the Airfield Operations Manager.
- A yearly external inspection of the GRE is required and reported to the, local planning authority providing evidence that the integrity and operation of the structures being maintained.

12.5.3.2 Loganair Procedure

Loganair are responsible for requesting assistance with the engine test from the duty AOO.

The AOO attending will:

i) FOD check the pen,
ii) Marshal if required
iii) Put warning signs out
iv) Turn on the portable lights
v) Close the interceptor valve.
vi) Check that the deflectors are in the closed position, taxi under power is prohibited if open
vii) Chock aircraft if required.

The AOO is not able to perform function of being safety man.

ATC to confirm Ops 1 is in position at the ETF and ready to accept the A/C prior to giving taxi clearance to the A/C.

12.5.4 Low Power Engine Runs

Low powered engine runs may be carried out on Stands 7 or 9 or in an area which the AOO deems appropriate, for aircraft no bigger than a F100. The AOO must speak with the relevant department first, i.e. the Apron, if the aircraft is parked on Stand 7. The aircrafts jet blast / prop wash must not affect other aircraft, movements or equipment in that area.

All low power engine runs should not normally last more than 15 minutes.

Any aircraft bigger than a F100, must taxi or be towed to the ETF to carryout low power engine runs.

12.5.5 Idle Power Engine Runs

The AOO shall consider each idle power engine running request on an individual basis, however the following factors must be considered;-

Engineering ground runs conducted on the Western Apron longer than 5 minutes total duration are to take place on the eastern side of the Apron.

Idle power engine runs should not normally last longer than 15 minutes. Idle runs of longer duration will be conducted at the ETF.

Consideration must be given to safety in the area with regard to engine ingestion, propeller hazard, FOD and jet blast.

Aircraft parked on Terminal Stands will be limited to check-starts and ground idle.

The duration shall be no more than 15 minutes otherwise the ground run shall take place at the ETF.

All check starts and ground idle runs shall normally be conducted on Stand 7 only In exceptional circumstances, subject to the agreement of the Apron Supervisor, check starts and ground idle may be conducted on Stand 6. As a last resort the run maybe conducted on the stand on which the aircraft is parked.

The restriction may be relaxed at weekends and bank holidays where check starts and ground idle runs to be conducted on stands 1-7 for no more than 5 minutes.

In the event that the exception is applied a written reason shall be provided by the operator and the Airside Services Manager to the Airport Operations Director & General Manager within 96 hours of the event.

Aircraft shall be positioned so that engine running will not harm persons or cause damage to aircraft, buildings, installations, vehicles or equipment in the vicinity

It must not take place when passengers are embarking or disembarking from adjacent or opposite stands.

APU/GPUs are to be used for the bare operational minimum of time due to the high noise output.

Boeing 737s

Boeing 737's of all series are permitted to undertake idle power ground runs on Stands 7 & 9, once authorisation has been given by the AOO.

The aircraft must be positioned so any jet blast avoids signage/equipment at the back of the Stands.

Engineering staff must perform an inspection of the grassed area to ensure any equipment is positioned away from engine jet blast zones.

On Stand 9 the nose of the aircraft must be level with the edge of the Eastern

Apron roadway to maintain maximum clearance of the engines from the Alpha Taxiway.

Authorisation from the AOO to idle run a B737 on Stands 7 & 9 is only valid for 15 minutes; if longer running time is required further authorisation must be requested from the AOO.

Restrictions

Norwich Airport reserves the right to curtail any engine running activity, due to:

- Non compliance with this procedure
- Operational restrictions/emergency procedures
- Environmental/community impact

Adverse weather

In the event of adverse weather i.e. snow, high winds, lightning, etc, Norwich Airport will reserve the right to suspend or cancel any engine running activity.

Low Visibility Operations

In LVO's Airfield Operations to agree all engine runs with ATC. Any Aircraft transiting to or from the ETF for engine runs will be under Air Ops escort.

Specific complaint

Should the Facilities Manager/Customer Services Department receive a high number of specific complaints regarding a high power engine running activity,
Norwich Airport will reserve the right to curtail this in the interests of the local community.

Other considerations

Records

- Records of all engine running activities
- Exemption records and Authorisation Codes
- All records to be held in the central archive.

(Sample of Digital ATC Log)

ENGINE RUNS APPROVED BY AIRFIELD OPERATIONS

** Fields with asterix are not required to be recorded for KLM UK Engineering (KLMUKE). KLMUKE will send their log of engine running to the Facilities Manager on a weekly basis directly*

Date	Start Time	Finish Time	Location of Engine Run	A/C Operator *	A/C Type	A/C Reg	Auth Code	Reason *	Nose In / Nose Out	Maximum Power (Idle/Low/High)	Duration of High Power Element (Minutes)*

11. BAD WEATHER OPERATIONS

Under the terms of the CAA Approval to operate NAL is required to document a Snow Plan. This sits within the Aerodrome Manual but is too in-depth to reproduce in this document. The Snow Plan is subject to a detailed review each year and is available for review should the ACC wish to see it.

12. ENVIRONMENT POLICY

NAL has a published Environmental policy and is compliant with this policy. For all new projects or procedural changes, environmental aspects are considered and any risks identified are mitigated against.

All new projects with an environmental impact are notified to the Environment Agency (EA) and any EA requirements are fully met. Where appropriate developments are also notified to the Local Planning Authorities for environmental impact assessment screening.

13. PROJECTS

All major projects that may affect the local community will be notified to the ACC in good time, irrespective of whether planning permission is technically required.

14. MASTER PLAN

The new NAL Master plan in accordance with the Aviation Policy Framework issued in March 2013, is expected to be published by Summer 2017 after the relevant consultation period. NAL recognises that the absence of such a document is likely to have an impact on the assessment of development proposals put forward on an incremental basis, until publication of this document.

The Master plan is important and remains a key document identifying and supporting airport related development and satisfying the contextual requirements of Government, Regional and Local strategies. It also supports the significant strategic, economic and tourism benefits that the airport brings to Norwich and the East of England.

GLOSSARY OF TERMS

AAL	Above aerodrome level, used to reference height
ACC	Airport Consultative Committee
ALT	Altitude, i.e. a height above mean sea level
APU	Auxiliary Power Unit
ATC	Air Traffic Control
ATSU	Air Traffic Service Unit
AUW	All up weight, normally used to categorise aircraft maximum take-off weight
CAA	Civil Aviation Authority
CAS	Controlled Airspace
CP	Critical Part, an area at an airport designated for parking aircraft to be boarded or loaded with security screened passengers, baggage and cargo
Danger Area	An area within which flight is restricted due to a known hazard
DME	Distance Measuring Equipment, generates a range normally in nautical miles
TM	Duty Terminal Manager
EGSD	A generic aviation code that identifies North Denes Heliport
EGSH	A generic aviation code that identifies Norwich Airport
ETF	Engine Test Facility
FL	Flight Level (an indication of height based on a common reference datum, e.g FL60 is approx 6000ft)
FOD	Foreign Object Damage, a generic term for the risk of unwanted or discarded items representing a risk to safety
Ft	Feet, as in the measurement of height/altitude
GPU	Ground Power Unit
Helispot	An aircraft stand providing parking for helicopters with rotors running prior to or at the termination of taxiing
HMR	Helicopter Main Routes
ILS	Instrument Landing System, a facility that gives a pilot information on glide-path and azimuth when approaching to land
LVP	Low Visibility Procedures
MNR	Minimum Noise Routing, an agreed but not enforceable route to limit noise.
NAL	Norwich Airport Limited
NIA	Norwich International Airport

NM	Nautical miles
QFE	A code that identifies a height rather than an altitude
RP	Reporting point, a visual or theoretical position used for navigational assistance
RWY	Runway
SE	South East
SMS	Safety Management System
SW	South West
UK AIP	United Kingdom Air Pilot, a publication used by pilots to identify procedures and facilities available
VFR	Visual Flight Rules, i.e. pilots look out of the window and operate on a see and be seen basis

For and on behalf of NORWICH AIRPORT LIMITED

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RICHARD PACE – MANAGING DIRECTOR

For and on behalf of the AIRPORT CONSULTATIVE COMMITTEE

.....

JACK SADLER - CHAIRMAN

For and on behalf of NORWICH CITY COUNCIL

.....

GRAHAM NELSON – HEAD OF PLANNING SERVICES

For and on behalf of BROADLAND DISTRICT COUNCIL

.....

PHIL COURTIER – HEAD OF PLANNING