



Hamilton Airport

# **Hamilton Airport**

## **NOISE MANAGEMENT PLAN**

**July 2021**

**Version 1.15**

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## Glossary of Noise Management Plan Terminology

AGL	Above Ground Level
AIPNZ	Aeronautical Information Publication New Zealand (contains the rules and procedures for pilots to follow in NZ)
AMSL	Above Mean Sea Level
ANB	Air Noise Boundary
ATC	Air Traffic Control
CAA	Civil Aviation Authority of New Zealand
CLG/LG	Community Liaison Group
CMP	Compliance Monitoring Programme
CTC	Crew Training Centre Hamilton Airport
dB	Decibel of noise
DME	Distance Measuring Equipment (usually co-located with a VOR)
DN...	District Plan Designation reference for HIA operations
GA	General Aviation aircraft operations
HA	Hamilton Airport
IFR	Instrument Flight Rules
INM	Integrated Noise Model
Ldn	Day/Night noise exposure level
MCTOW	Maximum Certified Take-off Weight
NMP	Noise Management Plan
NZDT	NZ Daylight Saving Time
NZST	NZ Standard Daylight Time
NZS	an NZ Standard
OCB	Outer Noise Control Boundary
RFS	Rescue Fire Service
RPT	Regular Passenger Transport Aircraft
RTF	Radio Telephone Frequency
RWY...	Runway (followed by the magnetic heading for that runway e.g. – RWY18)
SEFAT	Simulated Engine Failure after Take-off
VFR	Visual Flight Rules
VHF	Very High Frequency radio waves
VOR	VHF radio aid associated with aircraft navigation/approach procedures
WRAL	Waikato Regional Airport Limited

## **1.0 Introduction**

This Noise Management Plan (NMP) has been developed by the operator of Hamilton Airport (HA), and is designed to be expanded as noise mitigation measures are identified and implemented.

The NMP was developed in 2009 in response to consultative feedback on the proposed runway extension from the local community. This feedback identified the increasing movements of General Aviation (small aircraft under 3 tonnes), and particularly circuit training, as an airport noise issue.

The NMP describes the policies, standards and procedures used to manage noise generated by airport activities.

An important component of the NMP is the formation of the Airport Community Liaison Group (Liaison Group). The Liaison Group was formed to provide a means for the airport, community and operators to understand the issues, identify possible mitigation measures and make recommendations to the operator of HA.

### **1.1 Overall Concept**

Hamilton Airport is one of the busiest airports in New Zealand. Airports are inherently noisy environments, and the ability of the airport to grow and create noise in the surrounding community is protected within the publicly available Waipa and Waikato District Council Plans.

This Noise Management Plan will seek to ensure that the best outcome is reached for both the community and operators. To maintain community support, aircraft operators need to be considerate of their noise impact on the local community.

### **1.2 Objectives**

The NMP is designed to achieve the following:

- Form the basis for the airport's management and mitigation of all aircraft noise at and around the airport
- Facilitate community feedback to and from aircraft operators and the airport operators on noise issues through an Airport Community Liaison Group
- Document procedures and responsibilities for noise management and record outcomes from these procedures
- Increase the community knowledge of airport operations through the distribution of information regarding airport operator activity.
- Set out and adopt a complaints procedure
- Set out a dispute resolution process
- Record agreed noise abatement measures

- Assist in ensuring compliance with the relevant District Plan noise rules.

This document will be updated as new procedures, requirements and measures are recommended by the Liaison Group and accepted by the operator of HA.

## **2.0 Airport Community Liaison Group**

The following section outlines the role and functions of the Airport Community Liaison Group (Liaison Group).

### **2.1 Purpose**

The Liaison Group is designed to provide a forum for the relevant parties to work co-operatively, share information and seek solutions. In particular, it will provide the following:

- Provide an opportunity to bring affected parties together to discuss issues
- Provide a central point of contact for the community
- Provide an opportunity for the exchange of information
- To provide feedback and, if appropriate, advice to the operator of HA regarding noise abatement procedures, noise complaint resolution, and other noise related advice
- To provide a forum for the operator of HA to propose noise abatement procedures and seek resolution between affected parties
- Prior to the implementation of NZDT, issue a notice via the appropriate communication channels to advise residents living in the vicinity of Hamilton Airport of the change to circuit training cessation times, and appropriately referring them to the NMP on the Hamilton Airport website.

### **2.2 Membership of the Liaison Group**

This group will consist of the following parties:

- An independent Chairperson
- A maximum of four community representatives from the local community
- One representative from the operator of HA
- A representative from the Waipa District Council.
- A representative from the Waikato District Council
- A representative from Airways Corporation
- A representative from each aircraft operator who undertakes significant numbers of aircraft landings at HA

## **2.3 Roles in the Liaison Group**

The following roles are envisaged for the members of the Liaison Group:

- The operator of HA will undertake the following:
  - Provide updates of gross aircraft movements by aircraft types as required
  - Provide a list of complaints and responses
  - Provide technical reports, when available
  - Undertake any necessary administration and keep minutes for the meetings
  - The operator of HA will prepare a report for each scheduled meeting of the Liaison Group comprising the following as appropriate
    - list of complaints received in numbered sequence since the last CLG meeting
    - nature of complaints, findings and outcomes of subsequent investigations
    - any recommendations for the CLG to consider with regard to existing or proposed noise mitigation measures.
- The purpose of the independent Chairperson will be to ensure that all views are heard fairly, and that the necessary recommendations are made to the operator of HA. The independent Chairperson will be jointly appointed by the operator of HA and the Waipa District Council.
- Airways Corporation will provide information on control tower operations, and where able, supply the appropriate aircraft data.
- Community representatives, where able, will provide feedback that they have received on changes to noise levels, complaints, and the effectiveness of any noise mitigation measures undertaken.
- Council representatives will provide feedback that they have received, and provide advice in relation to the District Plan rules and associated compliance, as well as representing the wider community.
- The HA aircraft operator's representatives will provide information on current and planned operations, and issues in relation to implementing noise mitigation procedures.

## **2.4 Quorum**

A quorum exists when the following representatives are present:

- The Chairperson or his/her representative, who may be one of the 4 listed below.
- A community representative
- A senior manager of the operator of HA
- A representative from either Waipa District Council or Waikato District Council
- A representative from an aircraft operator

## **2.5 Meeting Frequency**

The Liaison Group will have a meeting every six months in September and March, or sooner if deemed necessary by the operator of HA. All meetings will be called and organised by the operator of HA.

## **3.0 Noise Mitigation**

The operator of HA will encourage aircraft operators to adopt the best practicable options to reduce their noise impact on the surrounding community.

Noise abatement procedures may be considered for managing specific noise issues. Any noise abatement procedures will be developed through consultation with the Liaison Group. Noise abatement procedures will not undermine aviation safety, or the commercial viability of the airport or operators. It should be noted that the Noise Management Plan will not be able to override District Plan rules.

### **3.1 Operator Considerations**

Aircraft operators carrying out (both day and night time operations) flight training operations at HA will be requested to observe the following:

#### **3.1.1 General**

- Not use occupied commercial premises or houses as regular reference points for training purposes, circuits or other manoeuvres.
- Simulated engine failures after take-off and glide approaches should be away from occupied commercial premises and houses.
- Where possible, include a variation of circuit direction as traffic, weather conditions, and Air Traffic Control allow.
- Consider use of other airfields for day/night training requirements
- Consider night flights over the city to be conducted at 2000 feet AMSL or higher when weather conditions permit
- Put an operational check system in place that will ensure all airborne night flying aircraft will be compliant with the NMP requirements. (i.e. circuit cessation times etc)

#### **3.1.2 Night Training Operations**

- If operationally possible, night-time circuit training should be away from built-up residential areas.
- Night circuits shall not be carried out between the hours of 10:00pm NZST (winter) / 10:30pm NZDT (summer), and 7:00am.
- No asymmetric circling approaches or training missed approaches are permitted after 10:00 pm NZST, or 10:30 pm NZDT. All approaches after this time must be straight in approaches to land (refer also Appendix 3-5 of the NMP for further detailed information. Note that appendix 3 is not to scale.)

### **3.1.3 Engine Testing**

Noise from maintenance and engine testing of aircraft shall comply with the Waipa District Council Plan requirements.

### **3.1.4 Notification**

The operator of HA will undertake to advise off-aerodrome operators of this plan.

## **4.0 Complaint Procedures and Dispute Resolution**

The following is the standard procedure for recording and responding to all noise complaints, and is the mechanism for dispute resolution.

### **4.1 Complaint Procedure**

All complaints regarding airport noise or aircraft in the vicinity of Hamilton Airport must be in writing and be directed to the operator of HA. Details of all such complaints received may be actioned using the appendices 1 and 2 of this plan. Providing sufficient detail is included, email notification is acceptable means of notification. Waikato District Council and Waipa District Council, Airways New Zealand, aircraft operators are to provide details of any noise related complaints they have received.

It should be noted that all complaints and the details of complaints supplied to the local councils are automatically deemed to be given in confidence. Any complaints passed on would be without names, or with names if permission is given, or the complainant referred to the operator of HA.

#### **4.1.1 Complaint Log**

The Complaint Log will comprise the complaint register, and noise complainant information with their appropriate original written complaint

The operator of HA will respond to all complaints to acknowledge the complaint has been received.

Where possible, operators are to be informed within one working day or as soon as practicable of a noise complaint relating or possibly relating to one of their aircraft.

#### **4.1.2 Complaint Investigations**

The operator of HIA will investigate all complaints within a timely manner. The Chairperson, or designated person, will be responsible for ensuring that correct investigation procedures are followed, and all complaints and complainants are treated fairly. All practicable procedures shall be used to confirm complaint details before contacting the aircraft operator. The outcome of each investigation will be recorded along with any action taken, as per appendix 1 or 2 of this plan or as appropriate.

If possible, the complainant will be informed of the receipt of their complaint within 24 hours, provided that their name and contact details are given. The investigation and report back to the complainant should be within 10 working days of the original notification date.

An updated summary of the complaints and investigations actioned since the last CLG meeting will be supplied to the Liaison Group at the group's next meeting.

## **4.2 Dispute Resolution**

The operator of HA will look to the Liaison Group to seek a resolution on any disputes between the parties. Where one of the parties is not represented in the group, the operator of HA will seek to resolve the dispute between the parties outside of the Liaison Group. Such resolution may involve the Liaison Group Chairperson.

Where a dispute exists within the Liaison Group that cannot be settled by the Group then the following procedure is to be used:

1. The Chairperson of the Liaison Group should seek to resolve the issue through mediation;
2. If a mediated settlement cannot be reached, then the Chairperson is to make a recommendation to the operator of HA on how the dispute maybe resolved. The operator of HA will consider the recommendation and report back to the Chairperson on the proposed course of action.
3. In the event that the proposed course of action in paragraph 2 above cannot be implemented, the operator of HA reserves the right to seek a solution or not as it sees fit. However, the final decision, actions and reasoning shall be reported back to the Liaison Group.

## **5.0 Noise Rules**

### **5.1 Waipa District Plan**

Hamilton Airport is within the Waipa District. The airport is designated in the Waipa District Plan (Designation DN71) for 'Airport Purposes, operations, maintenance and expansion of Hamilton Airport'. This designation authorises the ongoing operation of the airport, together with designations DN150 and DN151.

The Waipa District Plan, together with the Waikato District Plan and Hamilton City District Plan include noise boundaries, as recommended in NZ Standard 6805:1992 "Airport Noise Management and Land Use Planning". The noise boundaries comprise an 'Air Noise Boundary' based on a predicted noise contour of 65dBA Ldn and an 'Outer Control Boundary' based on a predicted contour of 55dBA Ldn. In Waipa and Hamilton the contours are based on noise modelling undertaken in 1992 while in Waikato District they are based on 2003 modelling.

The land within the noise boundaries in Waipa District is generally zoned Rural. The Waipa District Plan rule requires that the airport shall be operated so that the noise produced by aircraft operations shall not exceed the levels specified at the Air Noise Boundary and the Outer Control Boundary. 'Aircraft Operations' includes aircraft taking off and landing, missed approaches, circuit training, and aircraft taxiing, but excludes aircraft engine testing in the Western engine run up bay, on the Terminal apron, or on the main sealed runway.

The daily Ldn is to be measured in accordance with NZS 6805:1992 and logarithmically averaged over a three month period.

### **5.2 Waikato District Plan**

The Outer Control Noise Boundary extends into the Waikato District and is included in the District Plan with associated rules. The land is mainly zoned Country Living.

Land that is within the Outer Control Boundary is subject to different subdivision rules than elsewhere in the Country Living Zone with the average site area being 1.1ha, compared to the usual minimum of 5,000m<sup>2</sup>. In addition, all new certificates of title created by subdivision within the Outer Control Boundary area must have Consent Notices registered on the title recording that the land is within the Outer Control Boundary and is subject to aircraft noise, and requiring acoustic insulation of new houses or additions and extensions to houses.

### **5.3 Hamilton City Council**

The Outer Control Boundary extends into a small area of Hamilton City area, near Peacocks Road. This land is zoned Future Urban and the District Plan rules require acoustic treatment of new homes built within the Outer Control Boundary.

### **5.4 Proposed Amendments**

As part of the operator of HA's proposed runway extension project, it is intended to amend and update the noise rules, including the location of the Air Noise Boundary and the Outer Control Boundary. This will include removing the Outer Control Boundary from the Hamilton City area. This section of the NMP will be updated when these amendments become operative.

## **6.0 Compliance Monitoring Program**

### **6.1 Purpose**

The operator of HA will undertake monitoring and reporting of compliance as per the aircraft noise related requirements of the Waipa District Plan.

The purpose of the Compliance Monitoring Program (CMP) will be to regularly review and validate the assumptions on which the Air Noise Boundary (ANB) and Outer Control Boundary (OCB), as shown in the District Plans, were determined (i.e. aircraft type mix and quantum of movements). The program of observation, recording, reporting and review set out in this NMP is an appropriate means for the operator of HA to determine continuing compliance with the District Plan ANB and OCB contours.

### **6.2 Observations and Recording**

The operator HA will be responsible for arranging the observation, collection and recording of aircraft movement data on a continuous basis, and for undertaking any required subsequent analysis on which the compliance monitoring will be based.

It is recommended that the aircraft movement data to be recorded, for both day-time and night-time movements, should be for:

- Operation Group (Scheduled jet movements, scheduled turboprop, GA and helicopter)
- Aircraft type and model (if possible)
- Arrivals by runway
- Departures by runway
- Circuits.

The total number of recorded movements of each Operations Group and the total airport aircraft movements (all Groups) will be compared against the Threshold Criteria as described in section 6.3 of this document.

### **6.3 Threshold Criteria**

The total number of recorded movements of each Operations Group and the total airport aircraft movements (all Groups) will be compared against the Threshold Criteria.

The Threshold Criteria at which the operator of HA shall take further noise management actions over and above this Compliance Monitoring Programme are:

- Where the estimated annualised movements for the current period for total airport aircraft movements (all groups) have exceeded the threshold percentage of 70% of the total projected annualised future aircraft type mix and quantum of movements, upon which the ANB and OCB have been modelled

- Where the estimated annualised movements for the current period for any Operations Group have exceeded the threshold percentage of 70% of the projected future aircraft type mix and quantum of movements for that Group, upon which the ANB and OCB have been modelled
- Where the number of movements at night exceeds 5% of total projected estimated annualised future night movements (night is defined as the hours between 10pm-7am).
- Where there has been, or is soon expected to be a major change in operational patterns, such as:
  - Increasing use of a particular runway from that in the District Plan runway usage assumptions
  - Regular operations by a new aircraft type with a noise signature significantly different from those in the District Plan mix
  - Periodic usage by a new aircraft type with a noise signature that might create adverse “single event” noise impacts
  - Any other event or trend in activity that is likely to result, in the near to mid term future, in aircraft operations from which noise impacts may be approaching or exceeding the ANB and/or OCB

Discretion lies with the operator of HA to decide whether to run the Integrated Noise Model1 (INM) model at any time to generate a current view of estimated noise exposure to be compared with the District Plans ANB and OCB.

#### ***6.4 Monitoring Once Threshold is Met***

Once the above Threshold Criteria is surpassed (e.g. total aircraft movements surpass is greater than 70% of the future total projected or number of movements at night exceeds 5% of total movements) then:

Noise contours will be prepared annually for the busiest 3 month period. If the contours show that at any location, noise is within 1dB of the limit then temporary in-field monitoring is carried out to verify compliance.

#### ***6.5 Appropriate Personnel***

The operator of HA will ensure that calculation of threshold criteria, monitoring and noise measurements undertaken above are by a suitably qualified and experienced person.

#### ***6.6 NMP Compliance Requirement***

Requirements for operator compliance with the NMP are contained in the AIPNZ as published by CAA.

## 7.0 Contact for Noise Complaints

Complaints, questions or feedback regarding the Noise Management Program should be directed to:

Community Liaison Group

Hamilton Airport

Phone: (07) 848-9027

Email: [wral@hamiltonairport.co.nz](mailto:wral@hamiltonairport.co.nz)

Mail Address: Airport Road, RD 2

Hamilton 3282



## Appendix 2: Noise Complaint Form

<b>COMPLAINANT</b>		<b>Complaint No:</b>	
Name		Company	
Address:		Phones HM _____ Bus _____ MOB _____ Time _____	
Nature Complaint		Time	
Where			
Aircraft Type if known) registration, colour, distinguishing characteristics			
Investigation / By Whom			
Date and Actions			
Response to Complainant:			
Recommendations (if any)			
Signed <i>(by the person investigating to track accountability)</i>		Date _____	

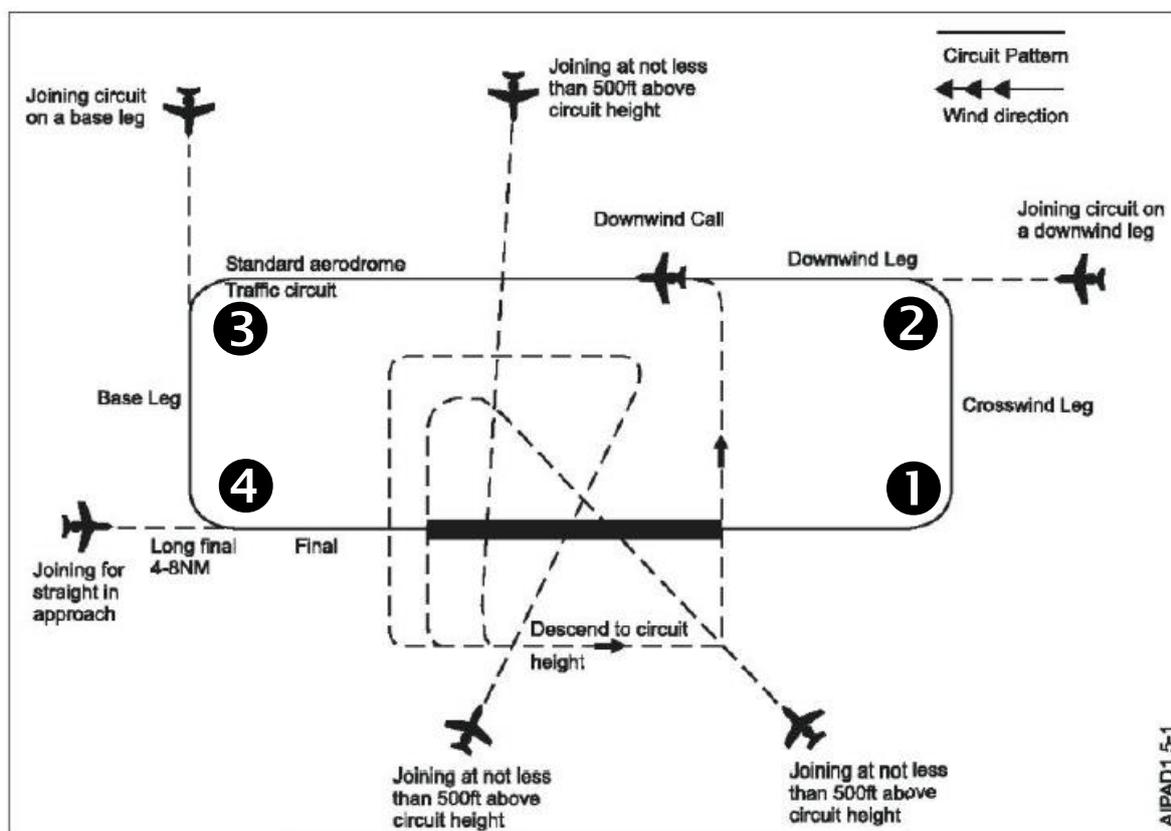
## Appendix 3

### Standard visual flight rules circuit training procedures

- The aircraft takes off on the duty runway (into wind) and climbs straight-ahead to point 1. This position is usually 500ft above ground level (AGL) and at that point makes a left hand turn, climbing to standard 1000ft above AGL to point 2. From be the aircraft to insert downwind and flies to point 3 maintaining 1000 feet AGL. Typically, the pilot judges distance downwind from the runway by tracking the left wingtip along the length of the runway. This distance from the runway can vary due to aircraft size. ATC and operational requirements. From point 3 the aircraft reduces power and descends to 500 feet AGL to point 4 and from point 4 continues to send to either land or make a touching go landing.

#### Simulated Engine Failure After Take Off (SEFAT)

- this procedure is part of the pilot training syllabus. Any SEFAT generally occur from take-off to point 1 but may also occur at other points on the circuit. Such SEFAT procedures must comply with NZAIP and NMP requirements.
- Due to IFR (instrument flight rules) training and AIPNZ requirements., IFR aircraft often are required to make a second approach to land - this will involve the aircraft flying all or part of the circuit at a lower altitude as specified in the AIPNZ authorised procedures

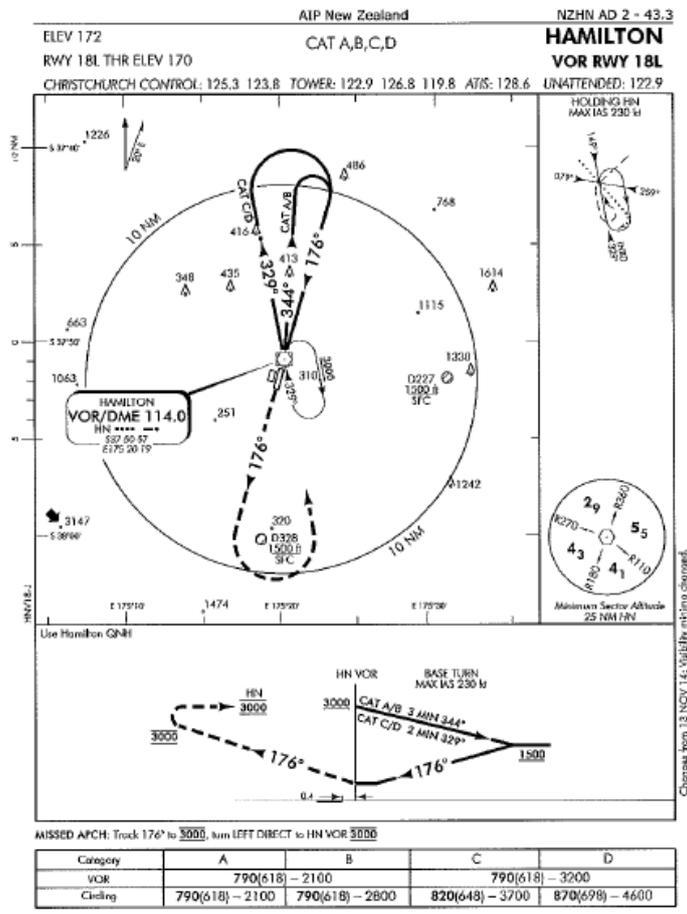


# Appendix 4

## Instrument flight rules approach procedures

Below is pictorial presentation of an example of IFR approaches that can be used at Hamilton (IFR are those AIPNZ requirements that aircraft must comply with when flying and cloud, in certain designated airspace, and when operating on an IFR flight plan)  
 In this Hamilton example, the training aircraft will have departed and climbed on the 176° track to 3,000ft above mean sea level (AMSL) then return to either 1) enter the race track holding pattern overhead VOR at 3000 feet. or 2) commence the outbound leg of the approach ( e.g. fly 329° track)

On the outbound leg to aircraft will descend from 3,000ft to 1,500ft AMSL and maintain this while doing a right-hand turn to position inbound to the runway on a heading of 176°. Once established the aircraft then descends to minimum altitude of 790 feet AMSL (618ft AGL) and either 1) maintains this altitude until the pilot can see the runway and land or 2) the runway is not sighted by the time the aircraft gets to the VOR, a missed approach procedure must be commenced (the aircraft puts on power and climb to head to 3,000ft)  
 For pilot training purposes and CAA pilot licencing requirements, the above missed approach procedure can be carried out even if the pilot can see the runway, as occurs when 2 engine aircraft are practising asymmetric circling approaches



## Appendix 5

### General Aircraft Operations

(Operational Explanatory Information)

- a) The NMP requires that all circuit flying by single and twin engine cease at 10.30pm NZDT/10.00pm NZST, and a curfew is in place after that time for all off-aerodrome pilot training operators. Typical Pilot circuit training procedures follow a required circuit pattern (both day and night) and this is explained in Appendix - 3.
- b) The circuit pattern/format may be varied by instructor/pilot requirements, but generally the circuit pattern as per the diagram must be followed, and is that required by the Examiner when assessing trainee pilots for licence issue.
- c) The circuit pattern as per the diagram is that to be flown by both VFR and IFR aircraft both day and night (there will be slight differences to the circuit size due to the different speeds of aircraft types.)
- d) **During daylight hours**, twin engine aircraft doing an IFR approach may also be required, either by training requirements (e.g. an asymmetric circuit) or by Air Traffic Control, to break off their IFR instrument approach, and make a circling approach, at possibly a lower but legal altitude, to join the aerodrome circuit to land. For IFR training aircraft, this procedure may also be permitted **up to** 10.30pm/10.00pm under the requirements of the NMP. After this time the NMP stipulates that all IFR approaches must be straight in approaches to land.
- e) VFR single or twin-engine aircraft operations after 10:30 pm/10.00 pm are to be confined to those locally based aircraft that have departed Hamilton for a **local night flight** away from the circuit, and subsequently return to make a full stop landing at Hamilton. This practice is permissible under NMP, as it is not a circuit.
- f) A **Local Flight**, (one that vacates the circuit area then returns to the aerodrome to land) is a requirement for pilot night training criteria, and does not constitute a circuit, even though the aircraft may need to join via the overhead circuit procedure to land. This **overhead re-join procedure** is an AIPNZ requirement at Hamilton when ATC is off watch. The overhead re-join procedures are shown in Appendix 3
- g) Legitimate IFR pilot training flights may occur after 10.30pm /10.00pm, and do not involve circuit training. These flights depart from Hamilton, climbing to a minimum of 3000 ft and then carry out an Instrument Flight Rules approach procedure from overhead the airport (same as the approaches flown by RPT aircraft in instrument cloud conditions arriving at Hamilton. refer Appendix 4)
- h) The missed approach procedure (same as that carried out by RPT aircraft in foggy conditions at Hamilton when the pilot cannot sight the runway and has to commence the missed approach procedure) by training aircraft is a mandatory IFR training requirement, and permissible under the NMP requirements. When carrying out the outbound leg of the instrument approach or the missed approach procedure, the aircraft can go as far out as past Hillcrest or Te Awamutu, depending on the runway in use.

## Appendix 5 ( Cont.)

### **General Aircraft Operations (Cont)**

(Operational Explanatory Information)

- i) The carrying out of the above IFR procedures by more than one aircraft on the same night after 10.30pm/10.00pm has the potential to give airport residents the impression that the aircraft are in the circuit, as they tend to follow each other on the approach at some 8-10 minute intervals. It could seem to airport residents that one aircraft has done 3 circuits.- this is not the case, as each aircraft would be making a full stop landing.
- j) Such a perception by residents is unfortunate but unavoidable, as the residents do not have the ability at night to positively identify each aircraft as different. With the onset of winter and the cessation of NZDT, airport residents should experience less aircraft noise later at night, as night training operations will be able to be commenced much earlier than during NZDT.