

CUYAHOGA COUNTY AIRPORT

A Joint Statement by and between the Board of Cuyahoga County Commissioners, Airport Administration, Federal Aviation Administrations' Air Traffic Control facility, and Airport Tenants & Users:

WITNESSETH:

WHEREAS, the County of Cuyahoga owns and operates a public airport for the convenience and necessity of the citizens of its County, and

WHEREAS, said airport is situated in the cities of Richmond Heights, Highland Heights & Willoughby Hills and also in both Cuyahoga and Lake County, and

WHEREAS, the operation of said airport constitutes a makeup of general aviation aircraft, all types and classes, and

WHEREAS, there is a concern on the part of the Board of Cuyahoga County Commissioners and the citizens of the communities surrounding the airport that the operation and activity at the airport, may occasionally generate an adverse noise impact on the surrounding area.

NOW, THEREFORE, be it resolved that the Board of Cuyahoga County Commissioners, the Airport Administration, the Air Traffic Control facility, the major users and tenants of the airport, in a joint effort commit to minimize noise impact to the environment in the vicinity of Cuyahoga County Airport, shall agree to and abide by, to the best of our ability of current and future operations, the following conditions, procedures and policies:

- 1 Encourage all types and classes of aircraft to abide by the National Business Aircraft Associations (NBAA) Noise Abatement Procedures, and other local procedures as applicable and amended from time-to-time by the Noise Abatement Council (NAC) through education and coordination with the Air Traffic Control Tower (ATCT) These procedures are recommended as the standard for all operations where aircraft manufactures have not recommended specific procedures Said procedures attached herewith are shown as Exhibit "I"
- 2 Initiate and monitor a voluntary airport-use application whereby all general aviation aircraft are requested not to schedule take-offs or landings at the Cuyahoga County Airport, Cleveland, Ohio, between the hours of 11:00 p.m. and 7:00 a.m. unless justified by emergencies, required within the scope of our present and future flight operations, or maybe necessary under special circumstances
 - i. The Airport Administration shall discourage the use of the Cuyahoga County Airport for flight-training purposes by all turbojet and turboprop aircraft at all times
 - ii. Discourage through education training flights by any category of aircraft between the hours of 11:00p.m. to 7:00a.m.
 - iii. Discourage through education all flight activity over the school in the southwest quadrant of the airport.

3. Require that all airport departures be initiated from the threshold on runway 24 and 6, except when authorized by the air traffic control tower.
4. Request that the Air Traffic Control Tower advise all aircraft to climb out to minimum altitude of 1900 MSL or a minimum distance of two miles before making any turns.
5. Pattern altitude required for turbine aircraft 2400' MSL and 1900' MSL for piston aircraft. Air Traffic Control reserves the right to specify departure and arrival instructions with respect to separation and safety.
6. Encourage minimal use of reverse thrust consistent with safety and runway conditions.
7. Discontinue aircraft engine runups between the hours of 9:00 p.m. and 9:00 a.m.
8. Require full power aircraft engine runups be conducted at the designated remote runup area.
9. Maintain appropriate signs adjacent to takeoff points to remind pilots when they are in a noise sensitive area and to encourage them the use of Noise Abatement Procedures.
10. Continue the efforts of the Noise Abatement Council to meet semi-annually for the purpose of reviewing factual data and related information with noise reduction as a goal. The council is to be composed of the Airport Administration, the chief pilots and/or Representative of all Flight Departments, an Airport Traffic Control Tower representative from the Cuyahoga County Airport, and a representative of the cities of Richmond Heights, Highland Heights and Willoughby Hills.
11. The Airport Administration and the Noise Abatement Council will periodically review procedures and operations relative to their impact on the community and make recommendations to the Board of Cuyahoga County Commissioners for their consideration.
12. This Joint Statement is not a binding contract, ordinance, regulation or operation restriction. The Joint Statement is voluntary and does not create liability, including joint or several liability or act(s) of non-compliance with this Joint Statement.
13. BY ENTERING INTO THIS AGREEMENT, I AGREE ON BEHALF OF THE CONTRACTING OR SUBMITTING BUSINESS ENTITY, ITS OFFICERS, EMPLOYEES, SUBCONTRACTORS, SUBGRANTEES, AGENTS OR ASSIGNS, TO CONDUCT THIS TRANSACTION BY ELECTRONIC MEANS BY AGREEING THAT ALL DOCUMENTS REQUIRING COUNTY SIGNATURES MAY BE EXECUTED BY ELECTRONIC MEANS, AND THAT THE ELECTRONIC SIGNATURES AFFIXED BY THE COUNTY TO SAID DOCUMENTS SHALL HAVE THE SAME LEGAL EFFECT AS IF THAT SIGNATURE WAS MANUALLY AFFIXED TO A PAPER VERSION OF THE DOCUMENT. I ALSO AGREE ON BEHALF OF THE AFOREMENTIONED ENTITIES AND PERSONS, TO BE BOUND BY THE PROVISIONS OF CHAPTERS 304 AND 1306 OF THE OHIO REVISED CODE AS THEY PERTAIN TO ELECTRONIC TRANSACTIONS, AND TO COMPLY WITH THE ELECTRONIC SIGNATURE POLICY OF CUYAHOGA COUNTY.



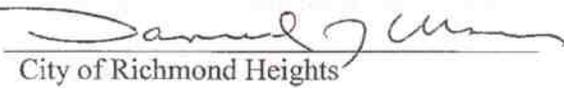
President, Board of Cuyahoga County

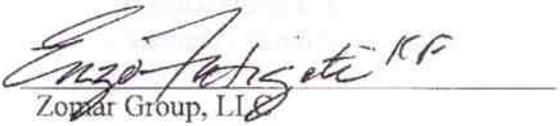
Commissioners

PETER LAWSON JONES, PRESIDENT
BOARD OF COUNTY COMMISSIONERS

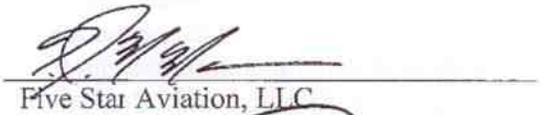

City of Highland Heights


City of Willoughby Hills


City of Richmond Heights

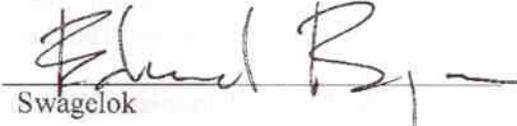

Zonar Group, LLC

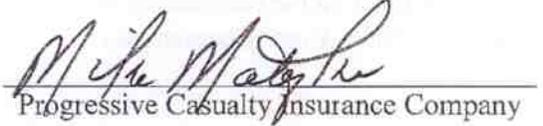

Nextant Aerospace, LLC


Five Star Aviation, LLC

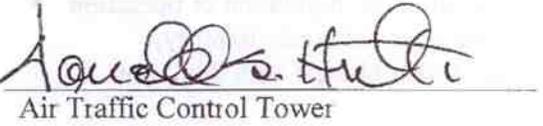

Eaton Corporation


The Cleveland Jet Center


Swagelok


Progressive Casualty Insurance Company

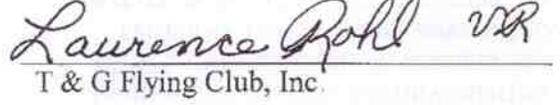

Aime Operating Corp.


Air Traffic Control Tower


Flight Options, LLC


Pace Aviation


Corporate Wings - CGF, LLC


T & G Flying Club, Inc.

The legal form and correctness of this title
instrument is hereby approved.
William D. Mason,
Prosecuting Attorney


Sandra Curtis-Paluck
Prosecuting Attorney

EXHIBIT I

NBAA Noise Abatement Program

Objectives

The following objectives are established for all noise abatement procedures of the NBAA Noise Abatement Program for jet aircraft:

1. *Safe.* Procedures must not only meet the requirements for known parameters of aircraft performance, they must also provide adequate safety margins so that a prudent, competent pilot will be willing to use them on a repetitive and routine basis under varying conditions.
2. *Standardized.* The same procedures should be applicable to all runways and all airports. For example, the entry point of the second reduced power segment of the NBAA CLOSE-IN DEPARTURE PROCEDURE is expressed as an altitude and not as a geographic fix. Similarly, the terminal point of this procedure is based on an altitude at which return to climb thrust will not create excessive noise. It should not be based purely on local factors such as geographical fixes.
Some NBAA procedures impose an operational penalty which cannot be justified solely by the noise level reduction achieved by each aircraft type. Therefore, it is necessary to make such compromises to achieve standardized procedures which could be used regardless of type and class of aircraft.
3. *Uncomplicated.* Complexity can create misunderstandings, resistance to use and loss of effectiveness. Therefore, the NBAA Noise Abatement Procedures are designed to be easily understood, easy to accept and are applicable to all types and classes of aircraft at all airports.

The NBAA Noise Abatement Program

The NBAA recommended program for reducing the noise impact of turbojet business aircraft has broad implications for all the various communities affected by aircraft/airport operations

Turbojet Business Aircraft Operations

1. Business aircraft operators must accept responsibility for operating their aircraft in such a manner as to reduce the noise impact to the lowest practicable level. Noise abatement procedures should be made part of the routine in operating aircraft in and out of ALL airports.
2. Aircraft operators must also take the initiative and responsibility to obtain all pertinent information on the local noise abatement policies followed at any airport they currently use, or expect to use in the future.
3. Operators should be aware that unnecessary use of reverse thrust when landing can be a source of excessive noise. Therefore, except for eliminating residual thrust, the use of minimum re-verse thrust necessary for safety is recommended, consistent with runway conditions and available length.

Local Communities and Airports

1. The noise abatement procedures recommended by NBAA are suggested as a national standard for business jet aircraft. They may be applied to any noise sensitive airport. Procedures adopted by any locality should, whenever feasible or beneficial, conform to such a national standard to ensure pilot understanding, acceptance and use
2. NBAA member companies should participate in local airport affairs, particularly those concerning noise abatement procedures. Where necessary, technical assistance can be provided to assist airport management in adopting procedures which meet the objectives of

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the NBAA Noise Abatement Program as they relate to operational safety. Every effort should be made to tailor procedures to the specifics of each airport in order to provide the maximum noise reduction consistent with safe operational practices and without unduly restricting the flow of air traffic

3. Communities must be given factual data to demonstrate that airport noise level reductions below those achievable through the procedures described can-not be realistically anticipated with cur-rent aircraft and engines.
4. Approach aids of various types can aid noise abatement procedures at an airport. Improvements in approach aids and runway facilities increase the possibilities for aircraft to use specific runways and approach patterns over the least noise-sensitive areas. Optimal employment of visual and electronic approach aids should be investigated by the airport management.
5. Airport approach and takeoff paths should be designated on all official zoning maps. This should be done for all airports, existing or proposed, in order that real estate activity is conducted with full awareness of the confines of such areas. Similarly, the land use permitted in these areas should be specified in zoning regulations and building codes in order to protect inhabitants.
6. Jet aircraft runup areas should be developed but usage limited to normal daylight work hours (M-F), for least noise disturbances to airport tenants and local communities. Blast fences, hush houses, etc., should be provided and used where necessary.
7. Airport management should take a close look at the airport's natural terrain and consider ways in which improvements to landscaping might improve noise conditions around the airport.
8. Airport management should post signs in pilot information centers, as well as at conspicuous places along the taxi-ways or runway areas, giving the pilots a last reminder that they are in a noise-sensitive area calling for use of noise abatement procedures.
9. A mixing of high and low performance general aviation aircraft on the same runway is often the cause for noticeable additional noise. Some problems that can arise from this type of intermixing are:
 - a. Excessive go-arounds.
 - b. Extended flight over noise-sensitive areas by aircraft in the high-drag high power-setting configuration (flaps and landing gear extended).
 - c. Derogation of the pilot's ability to follow noise abatement procedures to the fullest.
 - d. Excessive holding before take-off.
10. The airport management has the responsibility to look at all possible alter-natives to control these types of situations. For example, building a short run-way of 2,500-3,500 feet for the use of low performance aircraft would not only help solve many of the problems listed above, but would also allow the airport management to set up more effective noise abatement procedures.
11. The airport and ATC management should conduct a procedures review to recommend and implement new airport noise awareness programs. Adding a phrase such as "use noise abatement procedures" to all tower takeoff clearances should also be included in the recommendations.

Flight Information and Training

1. Pilot training for turbojet business aircraft should include basic noise abatement procedures in all types of ratings and ATR flight checks.
2. It is important that airport management realize that successful application of each airport's noise abatement procedure depends on the effort that is put into educating the pilots and the controllers. Airport management should consider an education program to inform pilots and controllers as to the need for and procedures associated with noise abatement and good community relations. A more thorough understanding by the pilots and the controllers as to what the procedures are, as well as the reasons behind them, is the key to success.

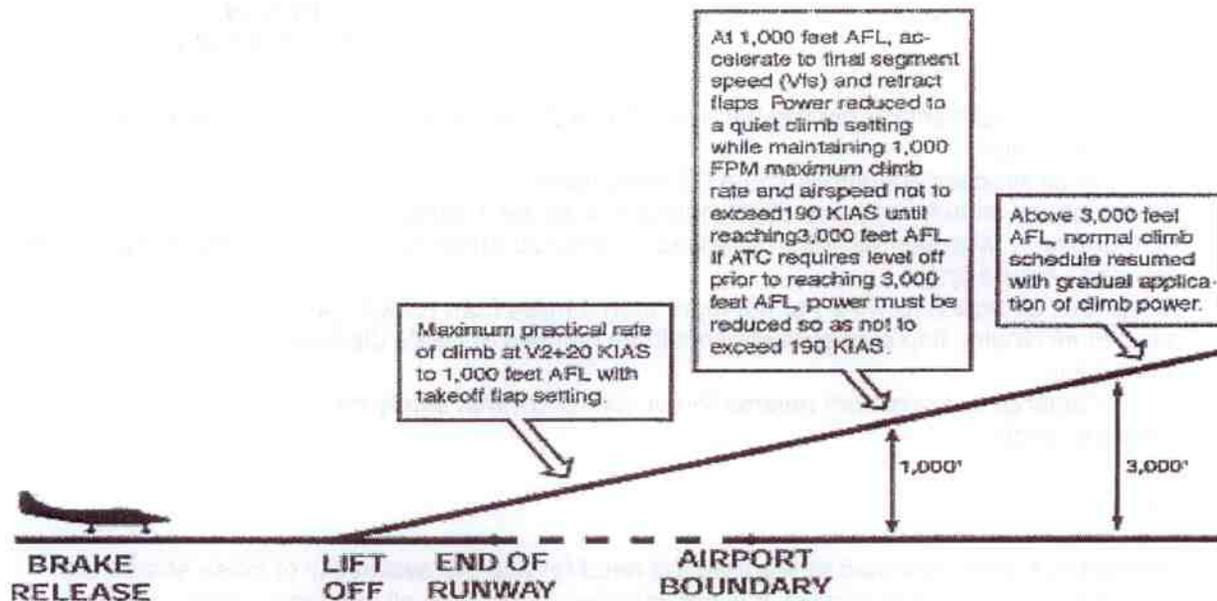
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3. Specific information should be developed by airport management and made available to pilots and controllers through publication of easily attainable flight manuals, NOTAMS, AIMS, letters to airmen, charts and explanatory pamphlets. This information should include:
 - a. Approach and departure paths over least noise-sensitive areas.
 - b. Preferential runway usages.
 - c. Emphasis on use of NBAA's noise abatement procedure.
 - d. General map showing surrounding area and marking places of specific sensitivity, such as schools and hospitals.

Air Traffic Control Procedures

1. Preferential runway use systems that are safe and do not unnecessarily restrict the flow of air traffic should be established at all airports having a need for them.
2. Control tower operators should be permitted to give any needed special attention to jet aircraft that may, for purposes of noise abatement, be required to land or takeoff using a different runway than the one in use by smaller aircraft.
3. Control tower operators should develop procedures that will separate high performance aircraft from low performance aircraft as much as possible.
4. The air traffic control procedures should keep aircraft more than 3,000 feet AGL over noise-sensitive areas to the extent that this can be accomplished without excessive derogation of air traffic flow.
5. FM's order 7110.22 recommends high performance aircraft within reasonable operating limits and consistent with noise abatement policies.
 1. Remain at the highest possible altitude as long as possible when arriving
 2. Climb to the requested altitude filed by the pilot as soon as possible after departing.
6. SID's should include references to the use of noise abatement procedures.
7. ATC clearances when issued by control tower operators should include a statement to "use noise abatement procedures."

NBAA Standard Departure Procedure



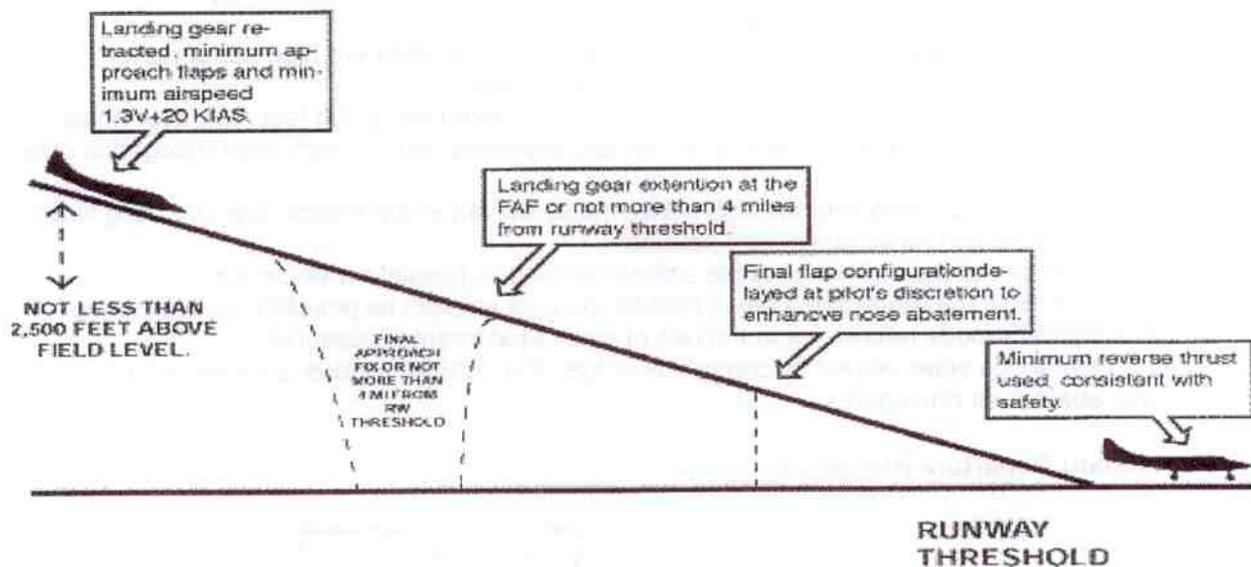
1. Climb at maximum practical rate at V2+20 Knots indicated airspeed (KIAS) to 1,000 feet above field level (AFL) with takeoff flap setting.

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2. At 1,000 feet AFL, accelerate to final segment speed (V_f s) and retract flaps. Reduce to a quiet climb power setting while maintaining 1,000 FPM maximum climb rate and airspeed not to exceed 190 KIAS until reaching 3,000 feet AFL. If ATC requires level off prior to reaching 3,000 feet AFL, power must be reduced so as not to exceed 190 KIAS until at or above 3,000 feet AFL. (See note below)
3. At 3,000 feet AFL and above, resume normal climb schedule with gradual application of climb power.
4. Observe all airspeed limitations and ATC instructions

NOTE: It is recognized that aircraft performance will differ with aircraft type and takeoff conditions; therefore, the business aircraft operator must have the latitude to determine whether takeoff thrust should be reduced prior to, during, or after flap retraction.

NBAA Approach and Landing Procedure VFR & IFR



1. Inbound flight path should not require more than a 20 degree bank angle to follow noise abatement track
2. Observe all airspeed limitations and ATC instructions.
3. Initial inbound altitude for noise abatement areas will be a descending path from 2,500 feet AGL or higher. Maintain minimum airspeed ($1.3V_s+20$ KIAS) with gear retracted and minimum approach flap setting.
4. At the final approach fix (FAF) or not more than 4 miles from runway threshold, extend landing gear. Final landing flap configuration should be delayed at pilot's discretion to enhance noise abatement.
5. During landing, use minimum reverse thrust consistent with safety for runway conditions and available length.

Summary

This publication has been designed to illustrate the need for and the availability of noise abatement procedures for turbojet business aircraft. It is not intended to describe all the various types of noise abatement policies followed by airport and aircraft operators, nor does it pretend to describe the "best" or "only" way to handle the problem of airport noise. However, it is an attempt to develop a generic approach for noise abatement procedures as a partial solution for the airport noise problem. Therefore, the following three points are stressed:

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1. Noise abatement policies must be cooperatively developed and understood by aircraft and airport operators, engine and aircraft manufacturers and the local communities if such programs are to be effective.
2. At the time decisions are made to purchase and operate business jet aircraft, the aircraft operators will surely review what is available that would best satisfy their individual needs, but they must also thoroughly review aircraft types for performance characteristics in terms of noise generated and the impact on community noise levels. Many such aircraft have the ability to be flown within reduced noise specifications and business jet aircraft operators are strongly urged to utilize the procedures and techniques that permit them to do so.
3. A system of flight procedures is only one part of a complete noise abatement program. The NBAA's recommended flight procedures can be implemented immediately, and can result in a major reduction in the noise generated by turbojet business aircraft. However, there may be a tendency to use them beyond reasonable expectations as a means of effectively resolving the entire noise reduction issue. This tendency can be self-defeating, particularly if the general public is misled as to the effectiveness of flight procedures as the sole permanent solution to the overall noise problem. Therefore, aircraft operators must continually demonstrate to the general public that there is a genuine concern toward reducing aircraft noise and that the application of NBAA's noise abatement program will serve as a partial aid in this effort by standardizing flight procedures and by providing adequate safety margins.

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Cuyahoga County Airport Voluntary Noise Abatement

The following procedures were adopted by the Cuyahoga County Airport Noise Abatement Council on August 26, 2009 and are applicable to all aircraft operating at Cuyahoga County Airport. The following rules are secondary to aircraft safety and in no way should be interpreted to preclude specific aircraft operating procedures and operational necessity.

Departure Procedures:

1. Climb at maximum allowable rate at V₂ (best angle) + 20 KIAS (Knots Indicated Air Speed) to 1,000 feet AGL (Above Ground Level) with takeoff flap setting.
2. Reaching 1,000 feet AGL accelerate to final climb segment speed (VFS) and retract flaps while maintaining 1,000 FPM (Feet Per Minute) maximum climb rate and air speed not to exceed 190 KIAS until reaching 3,000 feet MSL (Mean Sea Level). If ATC (Air Traffic Control) requires level off prior to 3,000 feet MSL, power must be reduced so as not to exceed 190 KIAS until at or above 3,000 feet MSL.
3. At 3,000 feet MSL and above, resume normal climb schedule with a gradual application of climb power.
4. Do not over-fly school $\frac{3}{4}$ mile sw of CGF (Cuyahoga County Airport).
5. No turns on departure prior to 1,900 feet MSL.
6. Observe all air speed limitations and ATC instructions.

Approach and Landing Procedures:

1. Pattern altitude for piston aircraft 1,000 feet AGL and 1,500 feet AGL for turbo props and turbo jets.
2. Do not over-fly school $\frac{3}{4}$ mile SW of CGF (Cuyahoga County Airport).
3. Minimum altitude on base leg 1,500 feet MSL.
4. If practical utilize 20 degree minimum bank angle when approaching for landing.
5. Initial inbound altitude for noise abatement areas will be a descending path from 2,500 feet AGL or higher. Maintain normal airspeed or 1.3 V_s + 20 KIAS with gear retracted and minimum approach flap setting consistent with minimum noise emissions at ground level.
6. It is recommended that landing configuration with regard to landing gear and flap extension be withheld until FAF (Final Approach Fix) or four miles from runway of intended landing.
7. During landing, use minimum reverse thrust consistent with safety for runway conditions and available runway length.