

US Department of Transportation
Federal Aviation Administration

Subject: ACTION: Recommendation for
Approval of the Barnstable Municipal
Airport (Hyannis), Barnstable,
Massachusetts Noise Compatibility
Program

Date: June 13, 1990

From: Manager, Airports Division, ANE-600 Reply to
Attn. of:

To: Associate Administrator for Airports,
ARP-I

On February 8, 1989, a notice was published in the **Federal Register** announcing Federal Aviation Administration's (FAA's) determination of compliance, for the noise exposure maps for Barnstable Municipal Airport (Hyannis) Barnstable, Massachusetts, under Section 103 (a) of the Aviation Safety and Noise Abatement Act of 1979 ("the Act"). Coincident with that determination, we began the formal 180-day review period (from our determination date of January 30) for Hyannis' proposed noise compatibility program under the provisions of Section 104 (a) of the Act. That program must be approved or disapproved by the FAA within 180 days or it shall be deemed to be approved as provided for in Section 104 (b) of the Act. The last date for such approval or disapproval is July 29, 1989.

We have reviewed and evaluated the proposed noise compatibility program and have concluded that it is consistent with the intent of the Act and that it meets the standards set forth in FAR Part 150 for such programs. The requirements of Part 150 were itemized in a checklist (Attachment 1) which was used to ensure that all required items were present in the proposed program.

The documentation submitted by Hyannis was reviewed by Airports, Air Traffic, and Flight Standards Divisions, by Regional Counsel, and members of the Noise Abatement Committee. No substantive comments have been received from other participants in the study, nor from other interested parties. The public comment period closed March 31, 1989.

Each proposed action in Barnstable's noise compatibility program was also reviewed and evaluated on the basis of effectiveness and potential conflict with federal policies and prerogatives. These include safe and efficient use of the nation's airspace and undue burden on interstate commerce.

Our approval or disapproval recommendations on each proposed action are described in the Record of Approval (Attachment 2). Each proposed action is described in detail in Volume 2: **Noise Compatibility Program**.

/S by William Cronin for/
Vincent A. Scarano

Attachments (2)

Concur X
Nonconcur



7/24/89

Associate Administrator for Policy
and International Aviation, API-I

Concur X
Nonconcur

/S/

7/26/89

Chief Counsel, AGC-1

Concur X
Nonconcur

/S/

7/27/89

Associate Administrator for Airports, ARP-1

**Record of Approval
Barnstable Municipal Airport
Barnstable, Massachusetts**

Noise Compatibility Program

I. INTRODUCTION

The Town of Barnstable sponsored an Airport Noise Compatibility Planning Study (under a Federal Aviation Administration (FAA) grant) in compliance with Federal Aviation Regulations (FAR) Part 150. The Noise Compatibility Program (NCP) and its associated Noise Exposure Maps (NEM), were developed concurrently and submitted to the FAA for review and approval on December 31, 1987. The NEM was approved on January 30, 1989. This determination was announced in the **Federal Register** on February 8, 1989.

The FAR Part 150 Study was closely monitored by an Advisory Committee comprising membership representing the Town of Barnstable (including the Airport Commission), airport administration, Fixed Based Operators (FBO's), community residents, commercial operators, and the regional planning agency. A series of meetings were held, with the consultant performing the study and the Advisory Committee in attendance. Public information meetings were held on March 10 and September 17, 1987. The consultant addressed comments at these meetings and other written comments subsequently received.

The study focused on defining an optimum set of noise and land use mitigation measures to improve compatibility between airport operations and community land use, and to continue good compatibility into the future.

The resultant program is described in detail in Chapters 4 through 7 of the NCP report. Chapter 4 describes airport operational measures. Chapter 5 describes land use control measures. Chapter 6 describes associated monitoring and enforcement. Chapter 7 provides details of implementation. Table 7.01, on pages 7-2 and 7-3, summarizes the program.

The approvals listed herein include approvals of actions that the airport recommends be taken by the Federal Aviation Administration. It should be noted that these approvals indicate only that the actions would, if implemented, be consistent with the purposes of Part 150. These approvals do not constitute decisions to implement the actions. Later decisions concerning possible implementation of these actions may be subject to applicable environmental or other procedures or requirements.

II. PROGRAM ELEMENTS (Keyed to Table 7.01)

A. Airport Operations Measures

1. Noise abatement Flight Tracks (**Volume 2: Noise Compatibility Program**, Section 4.2). Establishing preferential flight tracks would reduce flight over noise sensitive areas, such as the Cape Cod Hospital. **Approved.** Figure 1.02 and Table 1.01 depict population reductions of 38% within the 60-65 Ldn contour interval and 45% within the 65-70 contour interval, which are expected with the implementation of this and the other operational measures below. Also, noise-sensitive receptors, such as the Cape Cod Hospital, would receive less single-event noise.

2. Minimum VFR altitudes (Section 4.2 and Appendix 4-B) would also reduce noise, especially single-event noise, over noise sensitive areas. **Approved.**

3. Manufacturer's recommended or NBAA noise abatement procedure (Appendix 4-B). Adopting this as a part of the airport's noise rules would reduce noise over noise sensitive areas. **Approved.**

4. Preferential Runway Program (Section 4.3). For departures, Runways 06 and 33 are preferred, followed by Runways 15 and 24. For arrivals, Runways 15 and 24 are preferred, followed by Runways 06 and 33. This would produce an optimal operational - population exposed combination (Table 4.03). **Approved.** As noted above, noise, within the 60-65 Ldn contour interval and 65-70 interval, is expected to decrease 38 and 45 percent respectively.

5. Consistent with the overall preferential runway program, the nighttime calm wind runway would be established as 33 for departures and 24 for arrivals during periods when the air traffic control tower is closed (2200-0600). (Section 4.3) This would be implemented through the Automatic Terminal Information Service (ATIS). **Approved.**

6. Nighttime Touch-and-Go Prohibition (Section 4.4 and Appendix 4-B). Touch-and-Go operations would be prohibited between 2200 and 0659, unless permitted by the Airport Manager on the basis of unusual circumstances. **Approved.** This would address a significant single-event noise problem from excessive night training flights.

7. Voluntary Minimum Night Flights. This measure is intended to minimize early morning departures and nighttime arrivals. **Disapproved** because there is not enough reason to make an informed analysis under FAR Part 150. There is no evaluation of this measure in the text of the Noise Compatibility Program, particularly the extent to which it is related to the proposed nighttime noise limit, or the extent to which it contributes to noise abatement. It also appears that such an informal measure does not need FAA approval.

8. Daytime Noise Limit (Section 4.4 and Appendix 4-8). A takeoff limit of 82 dBA and an arrival limit of 90 dBA at FAR 36 measurement points would be established. An operator conducting more than six operations in any month would be required to conduct all daytime (0630-2229) operations for the next 12 months in aircraft that do not exceed these limits. **Disapproved** because of insufficient information from which to make an informed analysis under the Aviation Safety and Noise Abatement Act of 1979 (AADA). The current information does not show a noise problem or benefit in noncompatible areas. Also, there is no information on why specific noise levels were selected.

9. Nighttime Noise Limit (Section 4.4 and Appendix 4-B). Additional restrictions to daytime limits are proposed for nighttime operations (2230-0629). Turbojet or transport aircraft subject to FAR Part 36 Would require certification as a Stage 3 aircraft with a sideline noise limit not exceeding 94 EPNdB. **Disapproved** because of insufficient information from which to make an informed analysis under the Aviation Safety and Noise Abatement Act of 1979 (AADA). The current information does not show a noise problem or benefit in noncompatible areas. There is no information on why the specific noise level was selected. Also, the sideline community affected by night noise and the Ldn value must be identified.

10. The procedures and tracks in Sections 4.2., 4.3 and 4.4 assume full length runway departures, except for Runway 24. **Approved.** Intersection-Takeoff Prohibition (Appendix 4-8). This would result in aircraft flying higher over close-in neighbors.

11. Construct Taxiway S (Section 4.1). This proposal would extend the partial parallel taxiway system on the south side of Runway 24, thereby making possible the prohibition of intersection departures. The measure is **disapproved** for FAR Part 150 purposes. While it would permit greater runway length for intersection departures, it would not facilitate the proposed prohibition of intersection departures as stated in the study, since the extension could not be made to the runway end and there is already a full parallel taxiway system to the north of Runway 24 which **does** permit full length runway departures. Furthermore, there are two stub taxiways from the south side of the runway that provide access to the north parallel taxiway.

12. Add a 10-12-foot Noise Attenuation-Wall to an existing Earth Berm surrounding the Run-Up Pit (Section 4.5). **Approved.** This would improve the performance of the existing pit (Table 4.10).

13. Nighttime Run-Up Hours (Appendix 4-B). This measure revises the hours during which use of the Run-Up Pit, for maintenance run-ups, is required. **Approved.** It will reduce the incidence of maintenance run-ups outside of the pit.

14. Run-Up Rule Penalties (Appendix 4-B). This measure provides monetary penalties for violations of maintenance run-up procedures. **Approved.** The fines appear reasonably consistent with other airports and the objective of achieving compliance.

ADMINISTRATIVE MEASURES

15. Noise Abatement Officer (Section 6.1). A noise abatement officer would be hired to administer and enforce the noise compatibility program. **Approved.**

16. Noise Abatement Signs (Sections 3-1 and 6.5). This measure would continue the establishment of signs near runway ends, on taxiways, and at fuel docks, which would indicate noise abatement procedures. This is consistent with an adopted airport noise abatement policy statement (Table 3.01). **Approved.**

17. Pilot Education (Sections 3.1 and 6.5). Airport Management and Air Traffic Control Tower personnel would continue to meet with general aviation pilots and airline chief pilots to promote noise abatement. This is consistent with an adopted airport noise abatement policy statement (Table 3.01). **Approved.**

18. Noise Measurement Equipment (Chapter 6 Introduction). An integrating, portable sound level meter, capable of unattended monitoring, would be purchased. **Approved.**

19. Complaint Response Program (Sections 3.1 and 6.2). This measure would standardize a system for collecting, evaluating, responding, and providing feedback on noise complaints. It is consistent with the adopted airport noise policy statement (Table 3.01). **Approved.**

20. Track Changes in Noise Exposure (Section 4.6). An Airport Noise Index would monitor the change in day-night weighted noise exposure over time. Quarterly calculations would be compared against the index. **Approved.**

21. Update the Noise Exposure Map (Sections 3.1 and 7.1). Assuming quarterly noise index calculations did not indicate the need for earlier revision of the noise exposure map, the NEM would be revised in approximately five years, consistent with the Barnstable Municipal Airport Noise Abatement Policy statement (Table 3.01). **Approved.**

22. Permanent Noise Advisory Committee (Section 3.1). This is consistent with the airport noise policy statement in Table 3.01. **Approved.**

23. Annual Noise Report (Sections 3.1 and 6.3). The airport noise policy statement (Table 3.01) establishes the requirement for a report and Section 6.3 provides details on the content. **Approved.**

24. Airport Noise Abatement Policy (Section 3.1). This policy statement established the interest and concern of the Barnstable Municipal Airport Authority in noise abatement. The policy statement contains or affirms many of the proposed NCP measures. **Approved.**

Land Use Measures

25. Overlay Zones and Revisions to Subdivision Regulations (Section 5.2 and Appendix 5-A). This measure proposes an amendment to the Barnstable Zoning Bylaw and Map, as well as the Zoning Bylaw and Map of Yarmouth, for the purpose of establishing Airport Overlay Districts which would require sound attenuation in new structures subject to Ldn 60. Subdivision Regulations in both towns would be revised to require an annotation on plans indicating that the proposed development may be subject to noise exposure exceeding 60 Ldn. **Approved.** This measure will prevent future incompatibility in an area of intense development pressure.

26. State Building Code Revision (Section 5.2). A proposed Town Warrant Article, to be voted on at town meeting, would direct that the town recommend to the State Board of Building Regulations and Standards that regulations for noise level reduction be established. **Approved.**

27. Public Education (Section 6.5). This measure proposes continuing education of the public as to the "purposes, elements, and expectations of the noise abatement program." It includes news media briefings on significant noise reduction accomplishments and program performance, as well as widespread distribution of an annual noise abatement report and public information meetings. **Approved.**

28. Soundproofing (Section 4.1). While this measure was evaluated as an alternative, it is expected that implementation of other portions of the NCP would obviate the need for it. The study recommends that the Cape Cod Hospital become a candidate for soundproofing if it can be demonstrated that the annual Ldn equals or exceeds 60 dB. **Disapproved** for Part 150 purposes. There is not enough experience on the remainder of the NCP to judge its effectiveness and the study does not provide a rationale for using an incompatible use determination of less than 60 Ldn rather than FAA's compatible land use recommendation of less than 60 Ldn. This determination should not be construed as disapproval of the community's land use authority to consider Cape Cod Hospital as an incompatible land use.

Attachment 1

**FAR Part 150
Noise Compatibility Program Checklist - Part 1**

Airport Name: Barnstable Municipal (Hyannis) Reviewer: John Silva ANE-602

	Yes/No/ NA	Page No/Other Reference	Notes/Comments
I. Identification and Submission of Program:			
A. Submission is properly identified:			

1. FAR 150 NCP?	Y	Cover Sheet	
2. NEM and NCP together?	N		
3. Program revision?	N		
B. Airport and Airport Operator's name identified?	Y	Cover Sheet	
C. NCP transmitted by airport operator cover letter?	Y		Separate correspondence included
II. Consultation: (150.23)			
A. Documentation includes narrative of public participation and consultation process?	Y	Ch. 2. APP 2	
B. Identification of consulted parties:			
1. all parties in 150.23(c) consulted?	Y	Ch. 2. APP 2	
2. public and planning agencies identified?	Y	Ch. 2. APP 2	
3. agencies in 2,., above, correspond to those indicated on the NEM?	Y	Ch. 2. APP 2	
C. Satisfies 150.23(d) requirements:			
1. documentation shows active and direct participation of parties in B., above?	Y	SEC 2,3, APP 2-B, 2-D	
2. active and direct participation of general public?	Y	APP 2-C	
3. participation was prior to and during development of NCP and prior to submittal to FAA?	Y	CH. 2, APP2	
4. indicates adequate opportunity afforded to submit views, data, etc.?	Y	CH. 2, APP2	
D. Evidence included of notice and opportunity for a public hearing on NCP?	Y	SEC. 2.3, APP 2-C	
E. Documentation of comments:			
1. includes summary of public hearing comments, if hearing was held?	Y	APP. 2-C	
2. includes copy of all written material submitted to operator?	Y	APP 2	
3. includes operator's responses/disposition of written and verbal comments?	Y	APP 2	
F. Informal agreement received from FAA on flight procedures?	Y		Regional Noise Abatement Committee Review
III. Noise Exposure Maps: [150.23, B150.3; 150.(f)] (This section of the checklist is not a substitute for the Noise Exposure Map checklist. It deals with maps in the context of the Noise Compatibility Program submission.)			

A. Inclusion of NEMs and supporting documentation:

1. Map documentation either included or incorporated by reference?	Y	SEC 1.2
2. Previously found in compliance by FAA?	Y	2/8/89 Federal Register
3. Compliance determination still valid?	Y	
4. Does 180-day period have to wait for map compliance finding?	N	

B. Revised NEMs submitted with program: (Review using NEM checklist if map revisions included in NCP submittal)

1. Revised NEMs included with program?	NA	
2. Has airport operator requested FAA to make a determination on the NEM(s) when NCP approval is made?	NA	

C. If program analysis uses noise modeling:

1. INM, HNM, or FAA-approved equivalent?	Y	VOL. 1 (NEM), SEC 2.1
2. Monitoring in accordance with A150.5?	Y	CH. 3
D. Existing condition and 5-year maps clearly identified as the official NEMs?	Y	FIG. 1.01, 1.02

IV. Consideration of Alternatives: [B150.7, 150.23(e)]

A. At a minimum, are the alternatives below considered?

1. land acquisition and interests therein, including air rights, easements, and development rights?	Y	SEC. 5.1
2. barriers, acoustical shielding, public building soundproofing	Y	SEC. 5.1, 4.5
3. preferential runway systems	Y	SEC. 4.3
4. flight procedures	Y	SEC. 4.2
5. restrictions on type/class of aircraft (at least one restriction below must be checked)	Y	
a. deny use based on Federal standards	Y	SEC. 4.4
b. capacity limits based on noisiness	NA	
c. noise abatement takeoff/approach procedures	Y	APP. 4-B
d. landing fees based on noise or time of day	NA	
e. nighttime restrictions	Y	SEC. 4.4
6. other actions with beneficial impact	Y	SEC. 4.2
7. other FAA recommendations	N	

B. Responsible implementing authority identified for each considered alternative?	Y	Table 7.01
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C. Analysis of alternative measures:

- | | | |
|---|---|----------|
| 1. measures clearly described? | Y | SEC. 4.1 |
| 2. measures adequately analyzed? | Y | SEC. 4.1 |
| 3. adequate reasoning for rejecting alternatives? | Y | SEC. 4.1 |

D. Other actions recommended by the FAA?
Should other actions be added? (list separately or on back of this form actions and discussions with airport operator to have them included prior to the start of the 180-day cycle) N

V. Alternatives Recommended for Implementation:
[150.23(e), B150.7(c); 150.35(b), B150.5]

A. Document clearly indicates:

- | | | |
|--|---|------------|
| 1. alternatives recommended for implementation? | Y | Table 7.01 |
| 2. final recommendations are airport operator's, not those of consultant or third party? | Y | CH. 3 |

B. Do all program recommendations:

- | | | |
|---|---|---------|
| 1. relate directly or indirectly to reduction of noise and noncompatible land uses? | Y | CH. 4.5 |
| 2. contain description of contribution to overall effectiveness of program? | Y | CH. 4.5 |
| 3. noise/land use benefits quantified to extent possible? | Y | CH. 4.5 |
| 4. include actual/anticipated effect on reducing noise exposure within noncompatible area shown on NEM? | Y | CH. 4.5 |
| 5. effects based on relevant and reasonable expressed assumptions? | Y | CH. 4.5 |
| 6. have adequate supporting data to support its contribution to noise/land use compatibility? | Y | CH. 4.5 |

- | | | |
|---|---|---------|
| C. Analysis appears to support program standards set forth in 150.35(b) and B150.5? | Y | CH. 4.5 |
|---|---|---------|

Regional Noise Abatement Committee Review

D. When use restrictions are recommended:

- | | | |
|--|---|---------------|
| 1. Are alternatives with potentially significant noise/compatible land use benefits thoroughly analyzed so that appropriate comparisons and conclusions can be made? | Y | SEC. 4.1, 4.4 |
| 2. use restriction coordinated with APP-600 prior to making determination on start of 180-days? | Y | |

E. Do the following also meet Part 150 analytical standards:

- | | | |
|--|---|-------------------|
| 1. formal recommendations which continue existing practices? | Y | SEC. 4.5, APP 4-B |
|--|---|-------------------|

2. new recommendations or changes proposed at end of Part 150 process?	NA	
F. Documentation indicates how recommendations may change previously adopted plans?	Y	CH. 4,5
G. Documentation also:		
1. identifies agencies which are responsible for implementing each recommendation?	Y	Table 7.01
2. indicates whether those agencies have agreed to implement?	Y	CH. 3, APP 2-D, 4-A, 4-B
3. indicates essential government actions necessary to implement recommendations?	Y	Table 7.01
H. Timeframes:		
1. includes agreed-upon schedule to implement alternatives?	Y	Table 7.01
2. indicates period covered by the program?	Y	SEC. 7.1
I. Funding/Costs:		
1. includes costs to implement alternatives?	Y	Table 7.01
2. includes anticipated funding sources?	Y	Table 7.01
VI. Program Revision: [150.23(e)(9)] Supporting documentation includes for revision?	Y	SEC. 7.1

Issued in Washington, APP -600, March 1989