



U.S. Department
of Transportation
**Federal Aviation
Administration**

April 28, 1998

File

Airports District Office, FAA
Campus Building
1701 Columbia Avenue, Suite 2-260
College Park, Georgia 30337-2747
(404) 305-7150 FAX: (404) 305-7155

Mr. T. J. Orr
Aviation Director
Charlotte/Douglas International Airport
P.O. Box 19066
Charlotte, NC 28219

Dear Mr. Orr:

The Federal Aviation Administration (FAA) has evaluated the noise compatibility program (NCP) for Charlotte/Douglas International Airport contained in the FAR Part 150 Update Study and related documents submitted to this office under the provisions of Section 104(a) of the Aviation Safety and Noise Abatement Act of 1979. The recommended NCP proposed by the City of Charlotte is identified by action element numbers on pages 3-1 to 3-3 of the FAR Part 150 Update Study. We are pleased to inform you that the 23 elements in Phase I of the NCP that included the six withdrawals from the existing approved 1990 NCP were approved by the Administrator. The Administrator approved the four elements identified in Phase II of the NCP. The specific FAA action for each NCP element is set forth in the enclosed Record of Approval. The effective date of this approval is March 30, 1998.

Of the 17 approved elements in Phase I, two land use elements (LU-1 and LU-2) were partially approved subject to the recommendation related to the introduction of noncompatible residential development as not meeting the Part 150 criteria. All of the approval actions are more fully explained in the enclosed Record of Approval.

Each airport NCP developed in accordance with FAR Part 150 is a local, not a federal, program. The FAA does not substitute its judgment for that of the airport proprietor with respect to which measures should be recommended for action. The FAA's approval or disapproval of FAR Part 150 program recommendations is measured according to the standards expressed in the Part 150 and the Aviation Safety and Noise Abatement Act of 1979 and is limited to the following determinations:

The NCP was developed in accordance with the provisions and procedures of FAR Part 150.

Program measures are reasonably consistent with achieving the goals of reducing existing noncompatible land uses around the airport and preventing the introduction of additional noncompatible land uses.

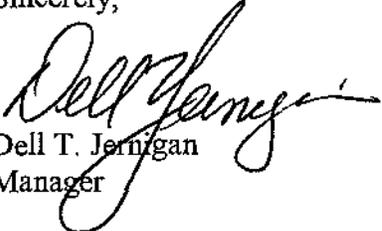
Program measures would not create an undue burden on interstate or foreign commerce, unjustly discriminate against types or classes of aeronautical uses, violate the terms of airport grant agreements, or intrude into areas preempted by the Federal Government.

Program measures relating to the use of flight procedures can be implemented within the period covered by the program without derogating safety, adversely affecting the efficient use and management of the navigable airspace and air traffic control systems, or adversely affecting other powers and responsibilities of the Administrator prescribed by law.

Specific limitations with respect to FAA's approval of the airport's NCP are delineated in the Part 150, Section 150.3. Approval is not a determination concerning the acceptability of land uses under federal, state, or local law. Approval does not by itself constitute an FAA implementing action. A request for federal action or approval to implement specific noise compatibility measures may be required, and an FAA decision on the request may require an environmental assessment of the proposed action. Approval does not constitute a commitment by the FAA to assist financially in the implementation of the program nor a determination that all measures covered by the program are eligible for grant-in-aid funding from the FAA under the Airport Improvement Program Act of 1992, as amended. Where federal funding is sought, requests for project grants must be submitted to the FAA Airports District Office in Atlanta, Georgia.

The FAA also has completed its review of the revised noise exposure maps and related descriptions submitted February 27, 1998, by the City of Charlotte. The FAA has determined that these maps for the Charlotte/Douglas International Airport are in compliance with applicable requirements. This determination is effective April 27, 1998. FAA's determination on an airport operator's noise exposure maps is limited to a finding that the maps were developed in accordance with the procedures contained in Appendix A of FAR Part 150. Such determination does not constitute approval of the data, information or plans.

Sincerely,



Dell T. Jernigan
Manager

Enclosures



U.S. Department
of Transportation
Federal Aviation
Administration

Memorandum

Atlanta Airports District Office
Campus Building
1701 Columbia Avenue, Suite 2-260
College Park, Georgia 30337-2747

subject: **ACTION:** Recommendation for Approval of Charlotte/Douglas International Airport Noise Compatibility Program (NCP)

Date: February 23, 1998

From: Manager, Atlanta Airports District Office, ATL-ADO

Reply to
Attn of: TRoberts:
404/305-7153

To: Associate Administrator for Airports, ARP-1
ATTN: Community & Environmental Needs Division, APP-600
THRU: Planning & Development Branch, ASO-610

On October 2, 1997, the Charlotte/Douglas International Airport, Charlotte, North Carolina, was notified of FAA's determination that preparation of the Noise Exposure Maps (NEM) under Section 103(a)(1) of the Aviation Safety and Noise Abatement Act of 1979 ("the Act"), as amended, was in compliance with applicable requirements of 14 CFR Part 150. Coincident with that determination, we began the formal 180-day review period for Charlotte/Douglas International Airport's proposed Noise Compatibility Program (NCP) under provisions of Section 104(a) of "the Act." Notice was transmitted to AGC-10 on September 30, 1997, for publication in the Federal Register.

Subsequent to our NEM compliance determination and start of NCP review, Mr. T. J. Orr, Aviation Director, requested a NEM substitution. Mr. Orr's request is a result of further noise analysis refinement accomplished in the environmental impact statement (EIS) preparation for the development of a third parallel runway. Mr. Orr's request letter and revised 1996 and 2001 NEM's are attached. The NEMs' substitution is necessary to ensure that both the Part 150 and the EIS document are consistent. The minor differences between the Part 150 NEM contours and those prepared for EIS analysis are not significant and will not change the land use mitigation program recommend in the NCP. The requested substitution of the NEM's is granted and revised NEM's have been determined to be in compliance with "the Act."

The Southern Region has reviewed and evaluated the proposed Noise Compatibility Program and has concluded that it is consistent with the intent of the "the Act" and that it meets the standards set forth in Part 150 for such programs. The standard Part 150 Noise Compatibility Program checklist was reviewed to ensure that all required items were included in the proposed program. The checklist is included in the FAR Part 150 Update document for Charlotte/ Douglas International Airport. The NCP document has been transmitted previously (reference transmittal memo dated October 6, 1997, to APP-600).

The Atlanta Airports District Office, Flight Standards, Airway Facilities, and Air Traffic divisions in the Southern Region have reviewed the proposed program. No comments have been received from other participants in the study nor from other interested parties.

Each proposed action in the Noise Compatibility Program was reviewed and evaluated on the basis of effectiveness and potential conflict with federal policy and prerogatives. These include safe and efficient use of the nation's airspace, undue burden on interstate commerce, unjust discrimination and interference with federal regulatory compliance schedule (i.e., FAR Part 91, subpart E). Each approved action is described in detail in the Charlotte/Douglas International Airport NCP. Our recommendation on each proposed action in the Charlotte/Douglas International Airport NCP is described in the attached Record of Approval.



Dell T. Jernigan Jr.

Attachments
Record of Approval
1996 and 2001 NEM's

Concur



3/24/98

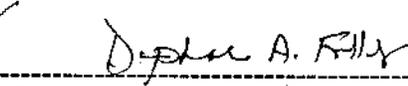
Nonconcur



for Assistant Administrator for Policy, Planning and
International Aviation, API-1

(Date)

Concur



3/30/98

for Chief Counsel, AGC-1

(Date)

Nonconcur



Approve



3/30/98

Disapprove



Associate Administrator for Airports, ARP-1

(Date)

cc:

Planning & Development Branch, ASO-610 (with attachments)



CHARLOTTE.

February 27, 1998

Mr. Tommy Roberts
Southern Region FAA
Campus Building
Atlanta Airports District Office
1701 Columbia Avenue
College Park, GA 30337-2747

RE: Substitution of Revised 1996 and 2001 Noise Exposure Maps (NEMs) for the Charlotte/Douglas International Airport Updated Part 150 Study

Dear Mr. Roberts:

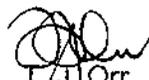
Enclosed please find three (3) copies of the above referenced maps being submitted under 14 CFR Part 150 for appropriate FAA determination. The City of Charlotte requests that these maps be substituted for the 1996 Noise Exposure Map (NEM), for existing conditions and the 2001 NEM with Noise Compatibility Program (NCP) implementation, which were initially submitted for review with the NCP document on August 26, 1997.

Through further refinement of the noise analysis during the EIS process, it has been determined that the NEM noise contours have changed slightly. To ensure that the noise analysis for both the Part 150 Study and EIS document remain consistent, it is necessary to request this substitution of maps prior to your final determination on the Part 150 Study Update submissions. The minor differences between the Part 150 NEM contours and those prepared for the EIS analysis are not significant and do not change the land use mitigation programs recommended in the NCP.

The future NEM which represents the fifth year from submission to the FAA, is based on reasonable forecasts and planning assumptions contained in Chapter Three of the Part 150 document. We herein verify that the documentation is representative of existing and five-year forecast conditions as the date of submission. The Noise Exposure Maps are revisions to NEMs which have been previously determined by the FAA to be in compliance with Part 150.

On behalf of Charlotte/Douglas International Airport, we wish to thank the FAA for its support in conducting the Part 150 Study Update and for considering this request for the substitution of the Noise Exposure Maps. We look forward to your approval of our revised plan so that we can begin the implementation of the noise abatement and land use mitigation measures for the benefit of the Airport's neighbors.

Sincerely,



T. J. Orr
Aviation Director

TJO:rsa

cc: Landrum & Brown

**Table 1-3
Noise Incompatibilities - 1996 NEM
Charlotte/Douglas International Airport**

	65-70 DNL	70-75 DNL	75+ DNL	Total
<u>AREA (SQ.MI.)</u>	9.7	5.5	3.5	18.7
<u>HOUSING UNITS</u>				
Total	2,531	439	32	2,991
Mitigated	754	337	16	1,107
Unmitigated	1,777	102	16	1,884
<u>POPULATION</u>				
Total	6,008	1,091	52	7,151
Mitigated	2,022	869	42	2,933
Unmitigated	3,986	222	10	4,218
<u>CHURCHES</u>				
Total	10	5	0	15
Mitigated	4	4	0	8
Unmitigated	6	1	0	7
<u>SCHOOLS</u>				
Total	3	1	0	4
Mitigated	2	1	0	3
Unmitigated	1	0	0	1

Source: Landrum & Brown, 1998 (95F21)

Table 1-10 (Page 1 of 2)
Noise Incompatibilities - Phase II NCP Case (Year 2001)
Charlotte/Douglas International Airport

	65-70 DNL	70-75 DNL	75+ DNL	TOTAL
AREA (SQ. MI.)	8.1	2.8	1.9	12.8
HOUSING UNITS				
Total Units Within Contour	789	79	11	879
Units in 1990 Mitigation Programs	560	28	1	589
Units Not in Mitigation Programs	229	51	10	290
Total Units Not in Mitigation Programs	229	51	10	290
- Mitigated by Master Plan Development ¹	52	24	10	86
- Mitigated by I-485 Right of Way ²	3	0	0	3
- Mitigated by Mobile Home Acquisition	74	26	0	100
- Unmitigated Housing Units	100	1	0	101
• Conventional: 1 or 2-unit	51	1	0	52
• Multi-family: 3 or more units ³	0	0	0	0
• Expected to Have Interior 45 DNL ⁴	49	0	0	49
- Units Potentially Eligible for Insulation ⁵	51	1	0	52
CHURCHES				
Total	6	1	0	7
Mitigated - 1990 Program	6	0	0	6
Mitigated - 1996 Program ⁶	0	1	0	1
SCHOOLS				
Total	1	0	0	1
Mitigated - 1990 Program	1	0	0	1
Mitigated - 1996 Program	0	0	0	0

¹ These housing units are located within the area of the proposed third parallel north/south runway recommended in the 1996 Master Plan Update.

² These housing units are located within the development corridor of I-485 and will likely be acquired upon construction of the roadway and its adjacent right-of-way.

³ The currently approved 1990 program does not provide for the mitigation of multi-family structures (more than two units). As revenue-generating housing, the City of Charlotte considers them to be commercial and residency is optional to the occupants.

⁴ Residential structures with a 45 decibel DNL or lower interior noise level, achieved through standard residential construction techniques, will not be eligible to participate in the sound insulation program. This eligibility criterion would most likely apply to houses constructed since the implementation of building code measures to achieve energy conservation (i.e., residential structures constructed since January 1, 1975). (Information obtained from Mr. Grover Sawyer, North Carolina Department of Insurance, Engineering Division, 919/ 733-3901; September 27, 1996.)

⁵ These housing units remain potentially eligible for mitigation through sound insulation due to their relative location within the 65 DNL noise contour and the age of the structure (constructed prior to 1975).

⁶ The Rose of Sharon Holiness Church is a tenant in a commercial building on Wilkinson Boulevard. Since the Airport does not include commercial properties within its sound insulation program, the building in which the church operates would not be eligible for participation.

Source: Landrum & Brown, 1998 (B26RR12)

Record of Approval

Charlotte/Douglas International Airport

Charlotte, North Carolina

The approvals listed herein include approval of actions that the airport recommends be taken by the Federal Aviation Administration (FAA). It should be noted that these approvals indicate only that 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.

The noise abatement actions and noise mitigation actions listed below summarize, as closely as possible, the airport operator's recommendation in the noise compatibility program, and they are cross-referenced to the program. The statements contained within the summarized recommendations, and before the indicated approval, disapproval, or other do not represent the opinions of the (FAA).

The recommended Noise Compatibility Program (NCP) consists, in part, of measures that were implemented under the approved 1990 NCP, as amended. These measures are recommended for continuation. New measures are recommended which may be initiated before or immediately upon approval of the Program by the FAA. Additional measures are recommended to further abate noise or mitigate its effect on persons and noise-sensitive land uses. These measures are divided into Phase I and Phase II implementation programs. Phase I assumes no further runway development. Phase II assumes the construction of the proposed third north/south parallel runway and the extension of runway 18R/36L. The proposed third parallel runway and the extension to runway 18R/36L is included in the Part 150 analysis because FAA guidelines require the inclusion of all development projects anticipated to occur within the next five years. The NCP measures are divided into noise abatement (air traffic), land use (preventive) and noise mitigation (corrective) actions.

Phase I: No runway improvements.

Noise Abatement Measures: NA-1

The city, as airport proprietor, will continue periodic monitoring procedures as initiated in the 1990 Part 150 NCP.

The initial Part 150 Study recommended the initiation of noise measurements on a periodic basis, as well as the acquisition of equipment to monitor the locations of aircraft in flight. Equipment was acquired for both purposes, and a monitoring program was initiated. It is recommended that this measure continue in its current application and that the existing measure be used to monitor trends in noise exposure, as aircraft are transitioned to a 100 percent Stage 3 fleet by 2000. Where significant differences between measured and forecast noise levels are noted, appropriate measures will be taken to address issues which might arise from those differences

(preparation of new noise contour maps, discussions with users, evaluation of mitigation program measures). Such measures, if deemed necessary, may be taken on an individual basis, or as part of a subsequent Part 150 evaluation. (Adopted Program, letter of transmittal; pages 1-7, 3-1, and 3-10)

FAA Action: Approved

Noise Abatement Measure: NA-2

Measure not recommended by airport sponsor. Listed for numeric continuity with the 1990 NCP. Disapproved for Part 150 purposes in the 1990 NCP. However, the measure to extend runway 36R 1,000 feet was subsequently approved as an airport capacity-related item of development, outside of the Part 150 planning process.

FAA Action: None required.

Noise Abatement Measure: NA-3

Measure not recommended. Listed for numeric continuity with the 1990 NCP. Measure to accelerate Part 36, Stage 2 phase out disapproved in the 1990 Part 150 NCP

FAA Action: None required.

Noise Abatement Measure: NA-4

The city, as airport proprietor, will provide monthly reports on late night (11 p.m. to 7 a.m.) runway utilization and variances from NCP assumptions to Air Traffic Control Tower (ATCT) management and frequent nighttime operators. Conduct follow-up with FAA (ATCT) and carriers to enhance voluntary adherence to existing program.

Statistics on the effectiveness of the night preferential runway use program for turbojets and large four-engine props have not been regularly provided to Air Traffic Control or the carriers. Consequently, the emphasis on use of the program that was present at the time of the approval of the EIS for the construction of runway 18R/36L and during preparation of the 1990 Part 150 study has decreased. The intent of this measure is to assure that the ATCT and the users are aware of the effectiveness of the program and to provide a basis for discussion to maintain the maximum utility of the existing program. This measure is not intended to suggest any modification to the existing night preferential runway use program, but rather to enhance its effectiveness.

Measure will provide no adjustment to impacts from noise exposure if all 1990 assumed use is followed. With improved adherence, will provide a reduction in noise exposure for approximately 250 dwelling units within the 65 DNL of 1996 existing conditions NEM. Improvements occur north/northeast of Airport. (Adopted Program, transmittal letter; pages 1-7, 3-1, 3-11 and Appendix B)

FAA Action: Approved

Noise Abatement Measure: NA-5

The city, as airport proprietor, has designated runways 18R and 18L as preferred for takeoffs by turbojet and large four-engine prop aircraft between 11:00 p.m. and 7:00 a.m. when, under the current preferential runway use program, runway 23 or runway 5 cannot be used for reasons of wind, weather, operational necessity, or required runway lengths. Currently, runway 5 is designated as the preferred departure runway by turbojet and large four-engine prop aircraft between 11 p.m. and 7 a.m. when runway 23 is unavailable for reasons of wind direction, adverse weather, or operational necessity. Runway 5/23 is the shortest runway on the airport. When neither runway 23 nor 5 can be used because of aircraft-specific runway length requirements, the most convenient runway in the active direction of flow is used.

The intent of Measure NA-5 is to amend the order of departure preference of the current night preferential runway use program to minimize the use of runways 36R or 36L when runway 23 is not long enough to allow takeoff. The measure assumes calm-wind (3 knots or less) use of south flow on 18R/L when runway 23 is not usable. The measure is not intended to apply specifically to small, propeller general aviation or commuter aircraft.

Provides a reduction of approximately 33 dwelling units within 65 DNL versus conditions without the measure. (Adopted Program, transmittal letter; pages 1-7, 3-1, 3-12, and Appendix B)

FAA Action: **Approved as a voluntary measure**

Noise Abatement Measure: NA-6

The city, as proprietor, is reaffirming airport user policy that designates locations and procedures for aircraft runups by incorporation into the NCP.

Residents of neighborhoods in the airport environs have complained about the noise levels produced by aircraft runups. Many of these events may not be actual runups, but rather the noise associated with power up at the initiation of takeoff roll or reverse thrust during landing. Both of these noise events are accounted for by the noise model's evaluation of flight noise and are necessary characteristics of flight, which will not be modified.

The airport has an established policy and procedure that addresses the location of engine runups by the North Carolina Air National Guard (NCAG) and the airlines using the airport. The Guard is directed by that policy to use the NCANG ramp, US Airways is directed to use US Airways' maintenance ramp, and other airlines are directed to use taxiways parallel to runways. All runups are to be conducted only after advising the ATCT of the requirement for runup. Runup activity conducted on the taxiways will be positioned under the guidance of ATCT ground control.

The intent of this measure is to reaffirm the airport's existing policy and to establish a fixed orientation for those runups conducted on the US Airways ramp. The use of a heading of either 230 or 050 degrees will assure that the aircraft on the US Airways ramp is facing at least partially into the wind.

No effect on contours, but measure will abate night single-event levels generated by runups, by directing ground engine noise away from residential neighborhoods. (Adopted Program, transmittal letter; pages 1-7, 3-1, 3-13 and Appendix B)

FAA Action: **Approved**

Noise Abatement Measure: NA-7

The city, as proprietor, has requested a modification to the current operating procedures for turbojet and large four-engine prop aircraft departing runway 36R and 36L to initiate turns at the 2.5 DME (36L) and 2.6 DME north of the CLT VOR/DME, respectively.

Large aircraft, which depart from runways 36R and 36L, are turned to headings of 025 and 330 degrees, respectively, under the provisions of the Hornet and Panther SIDs. Both SIDs call for the turn to be made "as soon as feasible", since aircraft climb at different rates and flying technique varies among pilots, the turns are in fact initiated at locations ranging from well-before the runway end to well-beyond the middle marker. The variability of the turn location results in aircraft overflying broad corridors of land along the two departure headings. The original intent of the addendum to the EIS for runway 18R/36L was that noise abatement would be enhanced by the concentration of overflights into specific corridors of compatibly used land northeast and northwest of the airport. Land use plans and mitigation programs could then be based on the location of noise contours reflecting the application of these procedures.

The NA-7 measure refines the pre-existing noise abatement procedures by providing specific locations at which turns may be initiated by large aircraft departing to the north. These locations approximate the center of the range of twin points now used. The result of the measure will be to focus traffic along originally intended traffic corridors and remove portions of the variability in the flight tracks associated with the current procedure.

Creates slight shifts in contour locations north of the airport with no net change of the numbers of affected dwellings. (Adopted Program, transmittal letter; pages 1-8, 3-1, 3-14, and Exhibit 3-2)

FAA Action: **Approved as a voluntary measure**

Land- Use Control:

Land Use Control Measure: LU-1

The city, as proprietor, has directed the continuation of the 1990 NCP's land use planning, incorporating the combined 1996 NEM and 1996 NCP contours in this effort.

This is a continuation of Measure LU-1 in the approved 1990 NCP which recommended amending local land use planning policies (zoning, density, and capital improvement recommendations) to reduce the development of new non-compatible land uses within the Airport environs. During the process of adopting the *Southwest District Plan*, the governmental authorities of the City and County compromised the intent of this land use mitigation measure. This compromise affirmed the implementation of a land use policy which would:

1) recognize existing land uses within the noise contours; 2) permit residential infill development; and 3) continue residential growth to be consistent with the adjacent land uses. The intent of this measure is for the planning commission to be proactive in amending the *Southwest District Plan's* land use policies to be consistent with FAR Part 150 compatible land use guidelines. (See Table A-13 in Appendix A of the FAR 150 Study Update document (*Methodology*), *FAA Land Use Compatibility Table 1*.) The compatible land use policies would apply to the areas within the 65 DNL of the combined 1996 NEM contours and 1996 NCP contours. The 1990 NCP called for the immediate implementation of this measure through amending the land use policies of the *Southwest District Plan*. The implementation of compatible land use planning, without compromise, should be continued in all future actions of the Charlotte-Mecklenburg Planning Commission for the Southwest District. (Adopted Program, transmittal letter; pages 1-8, 3-2 and 3-17)

FAA Action: **Approved in part.** The portion of this recommendation related to any new residential development, regardless of density, does not meet Part 150 approval criteria to prevent the introduction of noncompatible land uses and is disapproved. This disapproval for purposes of Part 150 is not intended to discourage planning efforts to reduce the potential for future noncompatible land uses.

Land Use Control Measure: LU-2

The city, as proprietor, has directed the continuation of zoning for compatible development approved in the 1990 NCP with added emphasis on the implementation.

This is a continuation of Measure LU-2 in the approved 1990 NCP which recommended the rezoning of property to permit only compatible uses within specific noise contours, to retain compatible zoning, and to limit the density of residential development permitted within noise contours. This measure is intended to establish the policy of making airport-compatible land uses the priority within the 65 DNL contour of the combined 1996 NEM and 1996 NCP so that the planning commission will be proactive in initiating the rezoning of large undeveloped tracts of non-compatible zoned property. As this measure is currently practiced by Charlotte, the airport initiates a zoning change request as non-compatible property is acquired. The 1990 NCP called for the immediate implementation of this measure through amending the local zoning ordinances. The implementation of zoning for compatible development should continue to be the first priority within the airport environs in all future actions of the Charlotte-Mecklenburg Planning Commission. (Adopted Program, transmittal letter; pages 1-8, 3-2, 3-18 and Appendix B)

FAA Action **Approved in part.** The portion of this recommendation related to any new residential development, regardless of density, does not meet Part 150 approval criteria to prevent the introduction of noncompatible land uses and is disapproved. This disapproval for purposes of Part 150 is not intended to discourage planning efforts to reduce the potential for future noncompatible land uses.

Land Use Control Measure: LU-3

The city, as proprietor, has withdrawn the previously approved 1990 NCP measure to implement zoning performance standards. This measure was never implemented, and is listed here for numeric continuity.

FAA Action; **No action required.** Measures LU-7, 8, and 9 replace this 1990 NCP measure.

Land Use Measure: LU-4

The city, as airport proprietor, has directed the pursuit of the unimplemented LU-4 of the 1990 NCP, dedication of avigation easement as a condition of approval for the development of property located in the airport environs.

This recommendation is essentially unchanged from Measure LU-4 of the approved 1990 NCP. Amending local zoning and subdivision regulations to provide for the dedication of an easement as a condition of approval for residential rezoning or subdivision plats within the 65 DNL noise contour would alert developers, lenders, and prospective purchasers to the proximity of the airport and to the existence of a potential noise issue. The avigation easement would also protect the airport from future litigation by purchasers of the rezoned or subdivided property. (Adopted Program, transmittal letter; pages 1-8, 3-2, 3-20 and Appendix B)

FAA Action: **Approved** New homes within the DNL 65dB contour will be sound attenuated and an easement dedicated to the airport, thus rendering the homes compatible under 14 CFR part 150. However, the FAA believes that the prevention of additional residential land uses within the DNL 65dB contour is highly preferred over allowing such uses even at lower densities and combined with sound attenuation. The airport operator and local land use jurisdiction are urged to pursue all possible avenues to discourage new residential development within these levels of noise exposure.

Land Use Measure: LU-5

Measure not recommended. Listed for numeric continuity with the 1990 NCP. Measure to provide for a Voluntary Farmland Preservation plan to preserve compatible land from being developed was disapproved in the 1990 NCP.

FAA Action: **None required.**

Land Use Control Measure: LU-6

The city, as airport proprietor, withdraws the implementation of the previous adopted land use control measure LU-6 in the 1990 NCP Program. The LU-6 measure recommended the development of a policy that prevents public utilities' installation in the airport environs. In an attempt to negate the potential for residential growth within the airport environs, Measure LU-6 of the approved 1990 NCP called for the city and county not to extend utilities into areas within the 1994 NEM 65 DNL noise contour. However, by law the city is required to extend utilities into any area that it annexes. Furthermore, the measure is contrary to the stated policies of the governing bodies to provide such utilities to its citizenry. (Adopted Program, transmittal letter, pages 1-8, 3-2, and 3-21)

FAA Action: **None required.**

Land Use Control Measure: LU-7

The city, as airport proprietor, has directed the pursuit of establishment of an Airport Overlay District that corresponds to the airport environs in which there will be special requirements relating to developing, rezoning, and transferring residential property.

The impact of the airport and its approaches on the appropriateness of residential zoning has been an issue since at least the 1960's. The *Southwest District Plan* recognized the existence of a geographic area in which the airport's influence cannot be overlooked. FAR Part 150 contains a methodology for identifying the area where the FAA will recognize noise as having a negative effect on residential use. The airport environs reflect that area with a margin of error.

As is recognized by the *Southwest District Plan*, however, other factors come into play in the airport environs to offset the negative effect of noise so that at many airports, including Charlotte's, there continues to be residential use and development. Nevertheless, much of the population would find this area unacceptable for residential use and, without safeguards, there is a distinct possibility that some of this population might inadvertently establish residence in this area. Moreover, controlling the characteristics of new construction in this area can definitely enhance the quality of livability. Finally, the city should be protected against having to compensate developers and residents who decide they made a bad decision and want to blame the city for maintaining the airport at its existing location.

Recognizing the airport environs coordinates the city's and FAA's definition of the area affected by the airport. It allows measures to be implemented to mitigate the negative effects of noise in a way that would be compatible with the overall zoning in the City and Mecklenburg County. (Adopted Program, transmittal letter; pages 1-8, 3-2, 3-22 and Appendix B)

FAA Action: **Approved**

Land Use Control Measure: LU-8

The city, as airport proprietor, will pursue amending the state building code to authorize the City of Charlotte and Mecklenburg County to raise the minimum building standards (noise level reduction requirements) by incorporating noise attenuation requirements for new residential construction within an Airport Overlay District. This measure is a revision to the previous unimplemented land use control measure LU-3 of the 1990 approved NCP.

The *Southwest District Plan* defines and recommends Noise Level Reduction (NLR) standards for residential construction in areas affected by airport noise as follows:

- Between the 70-75 DNL noise contours, allow residential development with noise attenuation measures to achieve outdoor to indoor NLR of at least 30 dB (40-45 dB interior DNL).
- Between the 65-70 DNL noise contours, allow residential development with noise attenuation measures to achieve outdoor to indoor NLR of at least 25 dB (40-45 dB interior DNL).

While these standards are used by the Airport in implementing Measure NM-3, below, the fact that the *Southwest District Plan* is only an advisory document has limited implementation of 1990 NCP Measure LU-3. Judicial precedent in North Carolina precludes any local variations in the State building code without prior approval by the North Carolina Building Code Council. Including a provision in the statewide legislation that authorizes the establishment of Airport Overlay Districts (Measure LU-7) to the effect that there may be additional building code requirements in these districts minimizes impact that the change would have on the

building code in general and should facilitate approval of these changes by the North Carolina Building Code Council. (Adopted Program, transmittal letter; pages 1-8, 3-2, 3-24 and Appendix B)

FAA Action: **Approved**

Land Use Control Measure: LU-9

The city, as airport proprietor, has directed the development of a method to insure that buyers of residential property within the Airport Environs receive full disclosure of the property location relative to the airport.

A purchaser disclosure notice addresses the desire of residents in the southwest district to continue to permit residential development in the airport environs. In combination with Measure LU-7 (Noise Overlay Zoning District), this new measure accommodates continued residential land use while providing a mechanism to enhance the awareness of new residents of the potential non-compatibility of the structure. (Adopted Program, transmittal letter; pages 1-8, 3-2, 3-25 and Appendix B)

FAA Action: **Approved**

Noise Mitigation Measures:

Noise Mitigation Measure: NM-1

The city, as airport proprietor, has directed the continuation of Noise Mitigation Measure NM-1 of the previously approved 1990 NCP which established a public information program to distribute noise and noise abatement information to the public.

Measure NM-1 of the approved 1990 NCP was implemented as recommended. A public information program has been developed to provide the general public, land developers, lending institutions, planning officials, and real estate professionals with the current status of airport operations, proposed airport development, noise impacts, and mitigation programs. Two newsletters were introduced as a result of this measure: (Adopted Program, transmittal letter; pages 1-8, 3-2 and 3-27)

FAA Action: **Approved**

Noise Mitigation Measure: NM-2

The city, as airport proprietor, recommends continuation of the sound insulation of noise sensitive buildings intended for public use, instruction (e.g., schools), or assembly (e.g., churches) within the 65 DNL noise contour (land-use corrective Measure No. 2 of the 1990 NCP). The continuation of this measure is updated to include the 65 DNL for the combined 1996 NCP/NEM contours and to provide for the voluntary participation of noise-sensitive public buildings (e.g., schools and churches) in the recommended sound insulation program..

Measure NM-2 of the approved 1990 NCP recommended the sound insulation of public buildings (schools) located within the 65 DNL noise contour for 1994. The definition of public buildings was revised on March 6, 1996, to also include churches within the 65 DNL contour. All of the noise-sensitive public buildings within the 65 DNL of the composite 1996 NCP/NEM noise contours were also located within the 65 DNL of the 1994 NCP.

The untreated noise-sensitive public buildings located within the 65 DNL noise contour of the composite 1996 NCP and NEM are seven churches and one school. However, one church is a tenant in a commercial building. Since the airport does not include commercial properties within its sound insulation program, the building in which the church operates would not be eligible for participation. Therefore, only six churches would be eligible to participate in the public building sound insulation program.

One church is currently on the real estate market to be sold; therefore, the new name, owner, and use are unknown at this time. The airport will include this structure in the noise-sensitive public building sound insulation program if the structure continues as a church. If the structure is not operated as a church, prior to the implementation of the 2001 NCP noise contours, the structure would not remain eligible to participate in the mitigation program.

Noise measurements were conducted at Olympic High School after the approval of the 1990 Noise Compatibility Program for Charlotte/Douglas International Airport. These measurements determined that the existing construction of the school met the FAA's and the City's design objectives for the classroom environment. No further mitigation measures were deemed necessary. The design objective for classroom environment is a time-average A-weighted sound level of 45 dB resulting from aircraft operations during normal school hours. The city's objective is that single event noise exposure should not regularly exceed a maximum of 60 dBA. The measured levels at Olympic High School met city's objectives.

Table A-12, in Appendix A of CLT Part 150 Study Update (*Methodology*), identifies all of the noise-sensitive public facilities located within the entire Part 150 Study area. The following table clarifies the list of noise-sensitive public facilities identified within the 65 DNL of the composite 1996 NCP/NEM noise contours. The status of current mitigation and the site code for map Exhibit 3-5 of FAR Part 150 Update document is also provided.

<u>CHURCHES - UNMITIGATED</u>	<u>MAP CODE</u>	<u>CHURCHES - SOUND INSULATED</u>	<u>MAP CODE</u>
1. Bethel Church	C8	1. Big Spring Methodist Church	C10
2. Jackson Park Ministries	C38	2. First Wesleyan Church	C30
3. Mulberry Baptist Church	C47	3. Ridgeview Baptist Church	C59
4. Rod of God Church	C60	4. Shopton Road Baptist Church	C63
5. St. James United Methodist Church	C66	5. Steele Creek Presbyterian Church	C73
6. Trinity Church of Nazarene	C79		
<u>CHURCH - TENANT IN COMMERCIAL STRUCTURE</u>		<u>SCHOOLS</u>	
1. Rose of Sharon Holiness Church	C61	1. Olympic High School	S8
<u>CHURCHES - AIRPORT-ACQUIRED</u>		<u>SCHOOLS - SOUND INSULATED</u>	
1. Berryhill Baptist Church	C6	1. Harding High School	S6
2. Harvest Church	C36	2. West Mecklenburg High School	S13
3. Western NC Church of God	C83	3. Westerly Hills Elementary School	S14

This noise mitigation measure will reduce the number of incompatible noise-sensitive public buildings within the 65 DNL noise contour by six churches (see the above table). (Adopted Program, transmittal letter; pages 1-9, 3-2, and 3-28)

FAA Action: **Approved**

Noise Mitigation Measure: NM-3

The city, as airport proprietor, directed the completion of the residential sound insulation program previously approved in the 1990 NCP as Land-use Corrective Measure No. 3, now modified to be within 65 DNL noise contour of the 1996 NCP or NEM contours, whichever is greater. The homes must be able to meet the noise level reduction eligibility criteria set forth by the FAA.

This recommended measure is a modification of the approved 1990 NCP Measure NM-3 which stated that the City should develop a program to consider the sound insulation of existing houses within the 65-70 DNL noise contour of the 1994 NCP. This updated Measure NM-3 recommends that the 65 DNL of the 1996 NCP contours and 1996 NEM contours, whichever is greater within any specific area, form the outer program boundary for program eligibility. Exhibit 3-6 of the FAR Part 150 Study Update document shows the 1996 NCP and 1996 NEM noise contours and the sound insulation program boundary. This program measure will be voluntary and provide mitigation to all private residences (other than mobile homes) that meet the FAA design objective for interior noise level reduction. In order for homeowners to participate in the sound insulation program, noncompatible structures would first have to be deemed eligible.

The design objective for sound insulation is to achieve a DNL of 45 dB in all habitable rooms. Eligibility criteria requires that residential sound insulation projects be designed to provide at least 5 dB improvement in noise level reduction (NLR). Only those structures able to achieve the minimum improvement in NLR and a DNL of 45 dB will be eligible for participation mitigation program. If the structure already has an interior DNL of 45 dB in all habitable rooms, it will not be eligible for the program.

This noise mitigation measure will reduce the number of incompatible structures within the 65 DNL noise contour by approximately 498. All of these incompatible dwelling units will be potentially eligible for participation in the sound insulation program. (Adopted Program, transmittal letter; pages 1-9, 3-2, 3-30 and Appendix B)

FAA Action: **Approved**

Noise Mitigation Measure: NM-4

The city, as proprietor, has directed the completion of the Land-use Corrective Measure No. 4 of the approved 1990 NCP based on the 1994 NEM to reduce existing noise sensitive uses within the 70-75 DNL noise contours. The approved measure included purchase assurance, sound insulation of residences to noise level reduction standards, purchase of aviation easements, or acquisition of incompatibly developed property. After completion of the current residential sound insulation program commitments, the NM-4 Measure will be updated and revised by Measures NM-2, NM-3, and NM-6 through NM-9 of this ROA. Noise Mitigation

Measures NM-8 and NM-9 will not become effective until Phase II of this NCP. (Adopted Program, transmittal letter; pages 1-9 and 3-3)

FAA Action: **Approved.** The airport operator plans to complete implementation of this previously approved measure, and has included it in this program for numerical continuity. The 1990 approval recognized its noise benefits. Excluded from past and current approval of this measure is the acquisition of property designated for airport development since it does not meet the goals of the noise compatibility program.

Noise Mitigation Measure: NM-5

The city, as airport proprietor, indicates that the previous approved Land Use Corrective Measure No. 5, acquisition of incompatible property within 75 DNL of the 1994 NEM contours of the 1990 NCP has been completed and the measure will not be continued. (Adopted Program, transmittal letter; pages 1-9 and 3-3)

FAA Action: **None required.** Included in this ROA for numerical continuity.

Noise Mitigation Measure: NM-6

The city, as airport proprietor, has directed the acquisition of Mobile homes located within the 70 DNL noise contour of the combined 1996 NCP/NEM.

According to the FAR Part 150 noise compatibility guidelines, mobile homes are not compatible land uses within the 65 DNL noise contour. Additionally, mobile home construction materials are not conducive to sound insulation treatment. Measure NM-3 recommends the voluntary sound insulation of private residences within the 70 DNL noise contour of the 1996 NCP/NEM noise contours. Because mobile homes cannot be effectively sound insulated, this new measure recommends the voluntary acquisition of these structures.

There are two mobile home parks; located on Wilkinson Boulevard and along Rodwell Road to the north and northwest of runway 18L/36R within the 70 DNL of the 1996 NCP/NEM noise contours: Acquisition and relocation of the mobile home parks and the mobile homes within these parks will be conducted pursuant to Federal guidelines. Each mobile home park, and the homes located within, will be assessed on an individual basis regarding the type of relocation assistance for which they would be eligible. The Department of Aviation will prepare the specific program requirements, definitions, and plans for relocation. The total estimated population to be removed is 185 people. This is a new measure recommended for approval in the 1996 NCP update.

In addition, the Airport Community Programs Manager will locate any individual mobile home units scattered within the DNL noise contour during the implementation process of inventory and appraisal. (Adopted Program, transmittal letter; pages 1-9, 3-3, and 3-32)

FAA Action: **Approved.** This approval is dependent on the exclusion of mobile home acquisition designated as being necessary for airport development (such property is not considered as meeting the goals of a noise compatibility program and should be otherwise acquired).

Noise Mitigation Measure: NM-7

The city, as airport proprietor, will exercise the option to purchase avigation easements on, sound insulate, or acquire homes within the combined 65 DNL noise contours of the 1996 NEM/NCP contour map, whichever is greater. Acquisition will take place where sound insulation is infeasible or not cost effective because the property does not comply with the Building code.

An airport project cannot provide funding to compensate for inadequate maintenance, to bring nonconforming structures up to building code standards, or to improve the comfort or attractiveness of a building. Under this revised measure, the airport is provided the flexibility to provide equitable solutions to the owners of those structures which are not up to the standards of the building code. The purchase of avigation easements, sound insulation, or acquisition of the property are recommended only in areas where sound insulation measures are being offered and then only in instances where a residential structure is not in compliance with the current standards of the state building code or when the condition of the structure makes it economically infeasible to implement the sound insulation measures. Terms of an easement may require that any money be used for building code, sound insulation, or other compatibility improvements. Acquisition should be accomplished when the property is valued at less than the cost of insulation.

This is a new measure recommended for approval in the 1996 NCP update. This noise mitigation measure will reduce the number of incompatible structures within the 65 DNL noise contour by approximately 20. The Airport Community Programs Manager will identify these structures during the inventory of property to determine program eligibility. (Adopted program, transmittal letter; pages 1-9, 3-3, and 3-33)

FAA Action: **Approved.** If the purchase of avigation easement option is exercised, the method of determining the easement value must be approved prior to inclusion in any federally assisted project.

Phase II: These adopted measures will only be implemented if the third parallel runway is constructed and becomes operational.

Noise Abatement Measure (Phase II): NA-8

The city, as airport proprietor, requests the establishment of an initial departure turn to a heading of 195 degrees for the third parallel runway departures (17/35), Runway 17 as soon as practicable by turbojets and large four engine prop aircraft.

In practice, ATC vectors all departures to enroute courses at about two miles of the runway ends. This recommended procedure would provide for early separation between departures from runways 18R and 17 during peak departure pushes and allow continuance of the existing waiver for simultaneous departures from runways 18R and 18L.

This new measure is intended to provide adequate visual separation so that aircraft may depart both runway 18R and runway 17. The heading of 195 degrees is intended to direct traffic along a course roughly parallel to and west of Steele Creek Road and over more compatibly used lands than would a departure along runway heading. While the measure is intended for application to turbojet and large four-engine prop aircraft, smaller prop aircraft (at the discretion of the controller) may also use it.

To assure adequate separation between departures on runway 17 and missed approaches on runway 18R (a combination that is not the normal expected operating configuration), ATCT will be required to maintain visual separation between the operations. Departures from runway 17 may occasionally be diverged to a heading of 210 degrees or more. (Adopted program, transmittal letter; pages 1-20, 3-3, and 3-15)

FAA Action: Approved as a voluntary measure. The proposed noise abatement measure provides noise benefit by allowing the existing noise abatement departure procedures on the existing parallel runways to remain intact, especially the departure procedure for runway 18R. At the present time, the airport is operating with a waiver for simultaneous departures on runway 18R and 18L where course divergence will not be 15 degrees or more immediately after departure due to noise abatement restrictions. If turbojets departing from runway 17 are not required to turn to a heading of 195 degrees immediately after departure from the runway (within safe altitude to conduct such a turn) the noise abatement procedure for runway 18R would require modification by turning to the east. This would cause more noise impacts to the noise sensitive areas to the south and east of the airport. This measure is approved because of its effect on the existing noise abatement procedures which, if not implemented, would cause a substantial noise increase over noise sensitive areas.

Noise Abatement Measure: NA-9

The city, as airport proprietor, requests the establishment of a departure turn of 315 degrees, as soon as practicable, by turbojets and large four engine prop aircraft from runway 35.

Measure NA-7 provides for turns from runway 36L to be delayed until reaching a point 2.3 DME north of the CLT VOR/DME, thus potentially increasing the separation between departures from runways 36L and 35. Recommended procedure NA-9 would provide for early separation between departures from both Runways 36L and 35 during peak departure pushes, while requiring coordination of departures from the two runways.

The heading of 315 degrees from runway 35 is intended to direct any turbojet departures from that runway along an initial course roughly aligned with the intersections of Wilkinson Boulevard and Sam Wilson Road and of I-85 and Moores Chapel Road. The use of the 315-degree heading avoids the necessity to revise the 330-degree heading from Runway 36L. While the measure is intended for application to turbojet and large four engine prop aircraft, smaller prop aircraft may also use it at the discretion of the controller. (Adopted Program, transmittal letter; pages 1-20, 3-3, 3-16 and Appendix B)

FAA Action: Approved as a voluntary measure. The proposed noise abatement measure provides a noise benefit by allowing the existing noise abatement departure procedures on the existing parallel runways to remain intact. The existing noise abatement departure procedure for runway 36L requires all jet aircraft to turn to a heading of 330 degrees to avoid overflights of noise sensitive areas directly north of the airport. The noise abatement departure procedure for runway 36R is to turn 025 degrees to avoid the noise sensitive areas and uses directly north of the airport. Turning departures from runway 35 to 315 degrees will allow for the 15-degree divergence for simultaneous departures on the two runways and will allow for maintaining the noise abatement procedure for runway 36L departures. In conjunction with NM-7 which is a modification to the existing runway 36L and 36R noise abatement departure procedure to avoid noise sensitive areas north of the airport, this measure will assure adequate separation and meet the required divergence between runway 36L/35 departures. If the runway 36L departure procedure is modified, the potential to significantly increase the effects of noise

over areas to the north greatly increases. This measure is approved because of its effect on the existing noise abatement procedures.

Noise Mitigation Measure: NM-8

The city, as airport proprietor, will sound insulate eligible dwelling within the 65DNL noise contour of the 2001 NCP/NEM.

The purpose of a sound insulation program is to reduce the adverse effect of airport-related noise on building occupants or residents. This recommended measure is a modification of the approved 1990 NCP Measure NM-3 which stated that the city should develop a program to consider the sound insulation of existing houses within the 65-70 DNL noise contour of the 1994 NCP.

This new measure recommends that the 65 DNL noise contour of 2001 form the outer program boundary for program eligibility. Exhibit 3-8 of the FAR 150 Study Update document shows the 2001 NCP noise contours and the sound insulation program boundary. This program measure will be voluntary and provide mitigation to all private residences (other than mobile homes) that meet the design objective for interior noise level reduction. In order for homeowners to participate in the sound insulation program, noncompatible structures would first have to be deemed eligible. If the structure already has an interior DNL of 45 dB in all habitable rooms, it will not be eligible for the program.

This noise mitigation measure will reduce the number of incompatible structures within the 65 DNL noise contour by approximately 74. All of these incompatible dwelling units will be potentially eligible for participation in the sound insulation. (Adopted Program, transmittal letter; pages 1-20, 3-3, 3-34 and Appendix B)

FAA Action: **Approved**

Noise Mitigation Measure: NM-9

The city, as airport proprietor, will acquire mobile homes within the 65 DNL noise contour of the 2001 NCP/NEM.

The noise compatibility guidelines of the CLT Part 150 program indicates that mobile homes are not compatible land uses within the 65 DNL noise contour. Additionally, mobile home construction materials are not conducive to sound insulation treatment. Measure NM-8 recommends the voluntarily sound insulation of private residences within the 65 DNL noise contour of the mitigated 2001 NEM. Because mobile homes cannot be effectively sound insulated, this new measure recommends the voluntary acquisition of these structures.

There are three mobile home parks, located within the 65 DNL of the 2001 NCP/NEM noise contours: to the north and northwest of runway 18L/36R and to the south of I-85. Each mobile home park, and the homes located within, will be assessed on an individual basis regarding the type of relocation assistance for which they would be eligible. The Department of Aviation will prepare the specific program requirements, definitions, and plans for relocation.

The population estimated to be removed from the DNL contour is 255 people. There may also be individually sited mobile homes scattered throughout the 65 DNL contour. As these mobile homes are located, the owners will be offered the opportunity to voluntarily participate in the acquisition program. As mobile homes (trailers) are considered to be personal property in the State of North Carolina, the structures do not appear on real estate tax records. Therefore, individual mobile homes not located within parks could not be specifically identified for the Part 150 study's land use database. The Airport Community Programs Manager will attempt to locate these structures during the implementation and inventory for the mitigation programs. Each mobile home will be assessed on an individual basis regarding the type of relocation assistance for which they would be eligible.

This is a new measure recommended for approval in the 1996 NCP update. (Adopted Program, transmittal letter; pages 1-20, 3-3 and 3-36)

FAA Action: **Approved.** This approval is dependent on the exclusion of property designated as being necessary for airport development. Such property is not considered as meeting the goals of a noise compatibility program and should be otherwise acquired outside of the Part 150 process.