To: Airport Commission **ITEM 7(d)**

From: Airport Staff

Subject: **Discussion of "Sound Initiative" Program**

Date: October 25, 2004

Introduction

This report discusses the new Sound Initiative program, which is an attempt to put together a coalition of airports (and the support of their associated communities) in an effort to get Congress to "reduce aircraft noise at its source." Their specific goal at this time is to have older Stage 1 and Stage 2 jet aircraft under 75,000 pounds phased out from operations within the United States. The federal Airport Noise and Capacity Act of 1990 (ANCA) prohibited local noise regulations (except those already in effect at the time - like those at Santa Monica Airport) and made it a federal prerogative. ANCA also provided for the phase out of Stage 1 and Stage 2 aircraft, the noisiest, over 75,000 pounds but exempted those under 75,000 which most effect general aviation airports across the country.

Discussion

Attached are documents that describe the mission statement of Sound Initiative, a case study of the impacts and a position paper written by the Airport Director of Centennial Airport in Colorado.

Although most Stage 1 and Stage 2 aircraft already cannot comply with Santa Monica's noise ordinance (which is grandfathered and in full force and effect because it predated ANCA), participation in this airport-led effort to deal with aircraft noise and federal regulation could be very important. Most of (if not all) Stage 1 and Stage 2 aircraft that visit the Airport are air ambulance / lifeguard flights – the phase out of all such aircraft in the United States would eliminate their future operation at Santa Monica Airport. As noted in discussions of other federal noise and air quality actions and legislation (such as Stage 4), the 75,000 pound exemption regularly appears and in effect means that as noise standards change they apply to commercial aircraft but not most general aviation oriented aircraft. It is a precedent from ANCA that keeps being used and its removal could provide the opportunity to insure that general aviation airports and their communities are treated equally with commercial airports in having improved noise and environmental standards apply to all aircraft using their facilities.

The effort also creates a forum and mechanism for airports and their communities to raise the level of awareness of aircraft impacts, particularly with regard to Congress and the FAA. The development of such an alliance, though initially narrowly focused on Stage 1 and 2, can become a way to address the overall issue of noise, environmental and other issues faced by general aviation airports and their communities on an on-going basis.

Recommendation

Staff intends to actively participate in the program and encourage the Sound Initiative coalition to end the 75,000 pound exemption and then maintain its involvement in the full range of airport issues. Staff will regularly report the activities of group. In summary staff believes that participation:

- allows us to present the SMO program and its uniqueness and effectiveness
- highlight the issue of ANCA and how it affects all airports
- remove the 75,000 pound exemption so that improvements in noise and other standards benefit general aviation airports and communities as well as commercial ones

- provides a basis for discussion of noise and fleet mix, types of aircraft, impacts and federal policy

- provides an opportunity to develop a relationship with other airports on the noise issue and federal regulations – and again allows for a discussion within out own community as well externally about the context across airports as well as locally.

- provides an opportunity for the Commission and community to be activity engaged with the airport and other airports and their communities in a common effort

- provides a basis/mechanism/forum for future allied airport cooperative actions on other environmental and FAA related matters

Prepared by: Bob Trimborn

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Attachment: Sound Initiative Press Release

Mission Statement

Case Study

Position Paper

Press Release

For Immediate Release
June 18, 2004

Contact: John Lindemann
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SOUND INITIATIVE TO DEBUT AT AAAE/LAS VEGAS
Coalition Aims to Reduce Aircraft-Related Noise Nationally

Morristown, NJ…Sound Initiative, A Coalition for Quieter Skies, will join airport operators and management at the American Association of Airport Executives Annual Meeting, scheduled for June 20-25 in Las Vegas, Nevada. The coalition, formed to encourage Congress to phase out Stage 1 and 2 aircraft less than 75,000 pounds, will debut at an information and organizational session on Wednesday, June 25 at 4:00 p.m.

Evidence shows that an inordinate percentage of noise complaints at airports across the country are caused by aircraft Congress exempted from the Airport Noise and Capacity Act of 1990. While the business aircraft fleet was comprised of a much larger portion of Stage 1 and 2 aircraft and the exemption was warranted more than a decade ago, their numbers have dwindled as advanced technology has created more efficient, quieter aircraft. Today, although Stage 1 and Stage 2 aircraft under 75,000 pounds account for only a minor percentage of the business-use fleet, some estimates indicate about 8 percent, they account for 50 to 75 percent of the noise complaints at several airports.

"This is a terrific opportunity and venue in which to introduce Sound Initiative, a coalition that from its inception was designed to be airport-led," said John Lindemann, Sound Initiative's Campaign Coordinator. "To date, our outreach has been highly targeted and discussions limited to colleagues who we know face similar noise challenges at their facilities. But a briefing that coincides with AAAE's annual meeting allows us to reach an even greater number of airport representatives who believe what we believe—that the aviation community can take the lead in trying to reduce aircraft noise at its source."

Lindemann explained that most airports strive to be good neighbors, most often in communities that have encroached on their facilities. "Arguments that 'we were here first' or 'we're just following FAA regulations' just don't cut it with a public that grows less tolerant of what it perceives as negative impacts on their quality of life, even if things like poor land-use planning are to blame for their problems" he said. "If airports can work with others in the aviation community, government officials and beyond to bring about positive change, that's an excellent way to prove their commitment as good neighbors."

Sound Initiative is reaching out to others with an interest in this issue, including government association and anti-noise proponents.

"Sound Initiative is a grassroots effort that we believe will gain the interest and support of a broad cross-section of people who understand aviation's economic benefit and the important role it plays from the smallest airstrip to the largest international airports. But these same people also recognize that aviation's viability depends, in part, on its willingness to address the concerns of the communities that host these facilities," concluded Lindemann.

For more information about Sound Initiative, visit www.soundinitiative.org.

Mission Statement

Sound Initiative…A Coalition for Quieter Skies

Sound Initiative's goal is to end the use of Stage 1 and 2 aircraft weighing less than 75,000 pounds. An airport-industry led coalition comprised of government, environmental, and anti-noise proponents, Sound Initiative will work to encourage Congress to phase out Stage 1 and Stage 2 aircraft under 75, 000 pounds, just as the requirements found in the 1990 Airport Noise and Capacity Act did for aircraft over 75,000 pounds.

Case Study

Morristown Municipal Airport

What happens at an airport when Stage 1 or 2 aircraft no longer use it? At a place like Morristown Municipal Airport (MMU), it means quieter skies for the people living and working nearby.

Located in New Jersey, the nation's most densely populated state, Morristown is among the busiest airports catering to corporate and smaller business aircraft in the New York City metropolitan area, logging an average of 210,000 departures and arrivals each year. Operations include those of based corporate tenants, transient business use, flight training and recreational traffic.

Although only one Stage 2 aircraft is based at MMU, more than half of the noise complaints from neighbors are the result of Stage 2 operations—more than half of the complaints stem from some of the approximately 800 Stage 2 aircraft operating nationally.

In a recent study by MMU management, the sound contour—the noise footprint—of all airplanes and jets departing MMU's Runway 23 was reviewed. They also reviewed what would happen to those contours if only Stage 3 aircraft departed from that runway. The results showed a significant reduction in the noise impact to airport neighbors, as shown on the maps you can click on below.

Phasing out Stage 1 and 2 aircraft isn't a panacea to the noise challenges faced by airports and those around them. But, as evidenced by the study conducted at Morristown, it's an important step toward quieter skies.

Position Paper

The Conundrum of Finding Equity within Inequity

By: Robert P. Olislagers
Airport Director
Centennial Airport, Colorado

Should Stage 2 jet aircraft weighing less than 75,000 pounds be phased out? It is a question that was raised more than a decade ago and has been raised again by legislators serving communities most affected by the noise produced by these aircraft. As more and more policy makers, citizens and even a few aviation aficionados support such a move, members within alphabet groups representing Stage 2 operators, such as AOPA, GAMA, NATA, NBAA and others, remain firmly opposed to the idea. Those who favor a Stage 2 phase-out argue that these aircraft cause a disproportionate amount of noise compared to Stage 3 aircraft and should perhaps have been phased out in 2000 as part of the CFR Part 91 Stage 2 phase-out of aircraft weighing over 75,000 pounds. Those who oppose a phase-out or even limited restrictions will postulate the irreparable economic harm it would cause to owners and operators.

The first question that comes to mind is, why did Congress and the Federal Aviation Administration (FAA) not phase out all Stage 2 aircraft as part of the Airport Noise and Capacity Act (ANCA) of 1990? Congress and the FAA applied what is known in modern utilitarian philosophy and jurisprudence as 'distributive justice' or equity— summum bonum , finding the same thing as the greatest good —when things are not the same. It is a time-honored puzzle, a conundrum where 'benefits' are weighed against 'burdens' in arriving at equitable positions; for creating equity in one often leads to creating inequity in the other. In the case of the ANCA phase-out, Congress and the FAA weighed the right of communities to peace and quiet and the right of commerce to engage in free market enterprise, against the cost that must be paid to protect that right or to accord the other the courtesy to that right. With the adoption of ANCA, Congress and the FAA acquiesced to the fact that nearly 13% of citizens would remain "highly annoyed" by aircraft noise using 65 dB DNL as the acknowledged brightline. It was also accepted as fact that commercial aviation could afford a Stage 2 phase-out for aircraft above 75,000 pounds, but that general aviation, due to disproportionate costs to the industry—burdens, could not afford a Stage 2 phase-out for aircraft weighing less than 75,000 pounds. In a compromise to general aviation airports and nearby residents, Congress and the FAA attempted to create equity by establishing a weight-based restriction—ostensibly to keep the heaviest=noisiest aircraft at the air carrier airports and out of general aviation airports, by providing the latter with immunity from equal access laws if they banned aircraft weighing more than a given standard. Many of the busiest general aviation airports thus established "pre-ANCA" weight-based limits, typically using the 75,000 pounds standard applied to the Stage 2 phase-out. At the time, most business aircraft in existence or on the drawing boards did not exceed 75,000 pounds—the primary reason this weight was selected as a standard, nor did the industry anticipate that scarcely a decade later business aircraft would easily push 100,000 pounds and higher. Fewer still imagined that these heavier aircraft would be substantially quieter than the older but lighter aircraft.

For stakeholders and policy makers to consider a Stage 2 phase-out for aircraft weighing less than 75,000 pounds, they must first come to grips with the same questions Congress faced in the 1980's, namely, what is the cost to industry; how many citizens remain exposed to noise by Stage 2 aircraft; and, how significant is Stage 2 noise? Also, what can be learned from the Stage 2 phase-out above 75,000 pounds? Statistics involving noise produced by aircraft below 75,000 pounds and how many citizens are exposed to such noise at general aviation airports are difficult to come by, since the FAA is not mandated to keep such figures. It is therefore not surprising that the first major revision to the national policy on noise abatement in 25 years does not contemplate phasing out noise produced by Stage 2 aircraft under 75,000 pounds, even though the FAA recommended a phase-out for all Stage 2 aircraft and began the same for aircraft over 75,000 pounds over a decade ago. Although the policy, proposed in 2000, does encourage voluntary noise reduction and refers to CFR Part 161, “Notice of Approval of Airport Noise and Access Restrictions”, as a means of addressing Stage 2 aircraft noise, these references must be viewed in the context in which FAA has never once issued approval for such restrictions since Congress adopted ANCA in 1990. Small wonder then that some lawmakers are frustrated with the lack of progress and have introduced proposed legislation that would ban such aircraft outright.

In general, the Stage 2 phase-out for aircraft weighing more than 75,000 pounds has met with substantial success if measured against the 65 dB DNL brightline. The gradual phase-out before the year 2000 cut-off date allowed many airports to substantially shrink noise contours and thus reduce the number of citizens exposed to excessive aircraft noise at or above 65 dB DNL. However, one major aspect of the phase-out, namely the “re-certification” of Stage 2 aircraft, has created significant controversy. “Re-certification” allows Stage 2 aircraft to “meet” Stage 3 standards, either with the use of “hushkits” or by way of an “averaging of measuring points”, but this effort to lessen the equity-burden to owners of such aircraft has been an abysmal failure as a noise reduction benefit. Airports Council International-North America (ACI-NA) reports that 60% of all noise at air carrier airports is generated by “re-certified” aircraft which make up 25% of the total fleet volume. One airport noise abatement officer even reported an increase in noise complaints—albeit a subjective measurement, but also a slight increase in the noise contours for the first quarter of 2000 as a result of the reintroduction of “re-certified” aircraft previously banned. The International Civil Aviation Organization (ICAO), therefore, in establishing a new Stage 4 standard, would do well to revisit its current position on allowing these “re-certified” aircraft to operate indefinitely. ICAO should also consider setting a higher reduction goal than the proposed 10 dB. Even among the 12,800 general aviation business jets—the industry segment that could not afford a Stage 2 phase-out in 1990, 88% of aircraft meet Stage 3 standards, without “re-certification”, and many already meet the ICAO's proposed “Stage 4” standard.

No withstanding “re-certification”, the Stage 2 phase-out has been a welcome addition in the fight against noise. Along with many other mitigation measures, the number of citizens in the United States exposed to 65 dB DNL and higher noise, has dropped from approximately 7 million in 1975 to around 400,000 in 2000. This number, however, reflects primarily those citizens living near the 651 air carrier airports. While economic necessity dictates that most air carrier airports are found near high-density demographic areas, the same can be said for a number of the 5,317 general aviation airports in the United States . Some of these airports rank among the most operationally significant, such as Van Nuys Airport, California (VNY), ranked 5 th , Centennial Airport, Colorado (APA), ranked 25 th , Oakland County Airport, Michigan (PTK), ranked 34 th and others. They share similar noise concerns as do the air carrier airports but without a Stage 2 phase-out, general aviation airports must deal with a disproportionate number of the loudest of aircraft and consequentially, so do the citizens living nearby. Teterboro Airport , New Jersey (TEB) reports that nearly 80% of all noise complaints are due to Stage 2 aircraft, yet they account for less than 12% of the total traffic volume. Similar experiences are found at other airports. Should citizens living near these airports not be accorded the same courtesy as those living near air carrier airports where a Stage 2 phase-out for aircraft weighing more than 75,000 pounds has been fully implemented since January 2000? Of course they should, they are like-citizens— summum bonum . What is not alike is the consideration given to the owners and operators of aircraft weighing less than 75,000 as a result of ANCA.

When Congress and the FAA exempted Stage 2 aircraft weighing less than 75,000 pounds from the phase-out in 1990, adverse economic impact was cited as one of the most significant concerns for general aviation operators. The question is, do these impacts still apply today? Would a phase-out cause economic hardship? Do smaller engines place greater design limitations on fan by-pass ratios and therefore limit the amount of noise that can be reduced? Do economies of scale dictate that new technologies take longer to reach the dollar-for-dollar smaller general aviation market as compared to the more highly capitalized commercial side, thus reflecting disproportionately in added cost to operators of these aircraft? And, how do those costs relate to the costs society pays—particularly when nearly 80% of the noise perceived to be highly annoying is caused by less than 12% of the total fleet weighing less than 75,000 pounds?

Consider operating costs. A Stage 2 Learjet 24 costs nearly twice as much to operate than a Stage 3 Learjet 31A, with fuel costs alone estimated to be 63% higher. In an era of sustainability and bottom-line economics, it is difficult to understand how one can even justify operating a Stage 2 aircraft with such numbers. True, initial costs are lower in the acquisition of Stage 2 aircraft, but when comparing the same aircraft over a 500-hour operating period, cost is about a wash as the higher operating costs of the Stage 2 aircraft quickly catch up with the higher acquisition costs of the Stage 3 aircraft, including the cost of borrowing money. Thus, impact for the smaller jets is virtually nil. On the other hand, impact for the larger and more expensive aircraft such as the Gulfstream III, is more significant because recovery from the differential acquisition costs takes substantially longer as compared to the efficiencies gained from the purchase of a quieter Gulfstream IV, for example. Therefore, in considering the conundrum that is Stage 2 under 75,000 pounds, an across-the-board phase-out would provide greater equity than isolated bans or restrictions applied outright. Ironically, this may be one of the reasons why Part 161 has been so difficult to implement. From an equity perspective, it is nearly impossible to reconcile airport-specific bans and restrictions in the context of a cohesive national airport system —the hallmark of aviation since the Air Commerce Act of 1926. Although Part 161 contemplates ‘equity' by considering ‘cost-benefit', it does so in airport-specific isolation, which is in direct conflict with interstate commerce laws and in the provision of equity for all. Short of litigation or rewriting some of the rules to resolve such conflicts, Part 161 may very well remain an exercise in futility.

What about impacts due to economies of scale relating to technology transfer? Here too cost and time appear to have had very little adverse impact on general aviation as 88% of the aircraft weighing less than 75,000 pounds already meet Stage 3 standards. In fact, it appears that general aviation has a higher ‘pure' Stage 3 ratio than the ‘heavy' commercial sector. Even concerns over fan by-pass constraints were easily resolved. One only needs to look at the Cessna CitationX and see engines that look like they have been on steroids to know that part of the solution involved simply building larger engines and nacelles. Also telling in the search for adverse impact on general aviation is the estimate by Bombardier Aerospace that many of its Stage 2 aircraft will reach the end of their life cycles over the next decade or so, as maintenance costs will approach the equivalent value of the aircraft. Add to this equation attrition from other factors and it becomes self-evident that a Stage 2 phase-out may not only be reasonable, but inevitable! But if aviation history is an indicator, someone will continue to fly such aircraft for as long as possible, to as many places as possible.

Reducing aircraft noise at the source remains as one of the most effective means of reducing noise and the phase-out of aircraft over 75,000 pounds has not had the adverse impact that many had predicted. On the contrary, business has never been so good. Aircraft make noise—not airports, and it is becoming increasingly difficult for airport operators to be the apologists for Stage 2 operators when it is obvious that industry is not only capable of reducing aircraft noise but that cost has not been a deterrent for 88% of owners. Of ancillary concern for airports may be, what David Gillen calls an “externality” of noise; that the failure to proactively address the remaining 12% of Stage 2 noise, may actually contribute to the further endangerment of airports and airport systems as increasing pressure is exerted on them to reduce noise regardless of their economic impact or regional importance. Santa Monica , Reid-Hillview, Meigs, and many other significant airports are seriously threatened—not just by incompatible development but also by the failure to address the most egregious of noise concerns.

Clearly, more information is needed but it appears that the cost shouldered by society is no longer justified by the cost to general aviation, as it was when ANCA was developed in the 1980's. While a timed phase-out allows general aviation to properly amortize costs, it should not take place in the vacuum of ‘single-culprit' status. Stage 2 aircraft are only partly to blame and thus they can only be part of the solution. Communities with airports have an equal responsibility to protect airports as they do residents. Too often land use controls are non-existent, not maintained or inadequately enforced while developers are allowed to encroach ever closer upon airports without strong disclosures that say “buyer beware”. Allowing incompatible land use near airports is as detrimental to quality of life as is Stage 2 aircraft noise exposure. Without controls, incompatible land use will ultimately threaten airports period, for today the complaints are about Stage 2, tomorrow Stage 3 and next year and beyond, Stage 4, Stage 5 and so forth, until the noise of crickets are all that remains—which incidentally would be fine with more than a few citizens.

Therefore, if equity is to be achieved, a Stage 2 phase-out below 75,000 pounds should be tied to realistic land-use controls that protect citizens and airports alike. Benchmarks need to be established using multiple standards, including incorporation of locally known conditions, i.e., acoustical effects on weather, bodies of water or terrain, to name a few—not just ‘minimum' standards or inadequate noise contours that often fail to capture the areas from where significant noise complaints are generated. Standards more stringent than the 65 dB DNL should be incorporated, including use of the Effective Perceived Noise Level (EPNdB), keeping in mind that airports and noise contours are dynamic and will shrink and expand given traffic volumes that are dependent on economic activity. Socio-economic factors must also be given more weight as Environmental Justice issues compel greater scrutiny in determining annoyance and whether or not there is disparity in the allocation and mitigation of noise. Furthermore, the FAA should give consideration to establishing a proactive land acquisition program—beyond Runway Protection Zone grant eligibility, for property considered incompatible and re-sell the same with adequate strings attached before homes are built. Finally, while developers and the real estate industry should not be prevented from developing near airports, except where safety concerns exceed acceptable standards, the industry should be required to meet tougher disclosure laws for all new projects so as to give prospective buyers a fair chance to assess impact on their quality of life when considering buying homes near airports—or any other potential 'nuisance' for that matter. The latter two recommendations are likely to be less expensive and socially more conscionable than buying up houses=homes built too close to airports. The proposed new noise abatement policy is to be commended for addressing many of these issues. But more can and should be done, as reducing noise is an exceptionally complicated task involving many players, issues and unique settings. It is not in anyone's best interest to overlook any mitigation measures, nor are the one-size-fits-all approaches in resolving conflict—especially where federal and local interests fail to mesh and add to the conundrum that is balance.

This brings us back to the time-honored problem of equity— summum bonum , when balancing benefits with burdens. Society is dynamic and the factors that determined the consequential outcomes in the distribution of benefits and burdens applied to general aviation in the 1980's no longer apply today. Society, when maximizing gain at distinct ends of the social and economic spectrum, will be inherently inequitable and achieving equity within inequity is often the best outcome one can hope for. This particular balance seems to have tipped, however, and the objections of old stand in sharp contrast to the nearly 90% Stage 3 compliance for aircraft weighing less than 75,000 pounds. Therefore, time has come for all stakeholders to re-evaluate the current state of affairs, including the lessons learned from the phase-out of aircraft above 75,000 pounds. Time has come to revisit FAA's recommendation for a phase-out of all Stage 2 aircraft and if the balance has tilted as it appears to have, then stakeholders and policy makers should not hesitate to consider an unambiguous formula for a Stage 2 phase-out below 75,000 pounds and link it to land-use controls that prevent incompatible uses near airports. A Judge in San Jose recently pointed to the problem of equating noise with weight as a standard in bifurcating justice— summum bonum , where the dividing line was set on either side of 75,000 pounds and where quiet[er] peace and enjoyment on the one hand, and commerce on the other, would—or would not meet. Noise is noise and we must not treat it as if it is different from one class of aircraft to the next, from one class of airports to the next and most importantly, from one class of people to the next.

The long-term viability of aviation depends entirely on stakeholder participation and sustainability, not only of our natural resources but also of our man-made resources, including our communities and our airports. Balancing the needs of both in the distribution of benefits and burdens must be the foremost standard after safety, if we are to succeed as an industry in finding equity within inequity.

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Paper presented at the 17th Annual Airport Noise Symposium, San Diego , California . March 24-27, 2002. University of California at Berkeley , Institute of Transportation Studies. Contact: www.its.berkeley.edu/publications/ordinfo.html

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This paper will refer to Stage 2 aircraft only and exclude Stage 1 aircraft which make up less than 1% of the fleet under 75,000 pounds. Collectively Stage 1 and 2 are sometimes referred to Non-Stage 3.

Aircraft Owners & Pilots Association; General Aviation Manufactures Association; National Air Transportation Association, and the National Business Aviation Association.

Code of Federal Regulations. Aeronautics and Space. 14 Part 91. Subpart I Operating Noise Limits . 2001 Parts 60 to 139. Washington , DC . U.S. Government Printing Office. Pages 243-255.

Fidell, Sanford. Assessment of the Effectiveness of Aircraft Noise Regulation . Noise & Health. April-June, 1999. 17:25.

Air carrier airports typically provide regular scheduled passenger service and are distinguished from general aviation airports by the requirement to maintain “certification” under Code of Federal Regulations, 14 Part 139: Certification and Operations: Land Airports Serving Certain Air Carriers . 2001. Washington DC . U. S. Government Printing Office. Pages 798-816.

Some airports applied alternative limits, such as Palomar Airport (CRQ) at 60,000lbs. and Teterboro Airport (TEB) at 100,000lbs.

Federal Aviation Administration. Aviation Noise Abatement Policy 2000 . Washington , DC . Department of Transportation. Federal Aviation Administration. Office of Environment and Energy. Noise Division. Federal Register. Vol. 65, No. 136. Friday July 14, 2000. Docket 30109. Pages 43809,43810 and 43813, 43814.

Rothman, Steven R. (Rep. D-NJ). H.R. 299. Aircraft Noise Reduction Act of 2001 . 107 th Congress. First Session. January 30, 2001. Also see Naples Airport , Florida .

ACI-NA. The Next Stage in Noise Abatement Policy . Washington , DC . 2000. Page 5.

Burbank-Glendale-Pasadena Airport , California (BUR).

Most airports are calling for a minimum 14 dB reduction from the current Stage 3 standard while ICAO is considering only a 10 dB reduction.

Federal Aviation Administration. Office of Environment and Energy. Noise Division. Washington , DC . The estimate was derived from approximately 100 Part 150 studies and Environmental Impact Studies.

Federal Aviation Administration. Administrator's Fact Book . January 2001. Washington , DC . Page 17.

Teterboro Airport (TEB) Noise Office.

Conklin & deDecker. Aircraft Cost Evaluator . Fall 2000.

Dureau, Gaëtan. 2001: An Airspace Odyssey. Assessing Plans for Stage 4. A Business Jet Perspective . Bombardier Aerospace. Presentation at the 2001 International Noise Symposium. U.C. Berkeley. San Diego , California . February 25-March 1, 2001.

Gillen, David. The Economics of Noise Management . February, 2001. Institute for Transportation Studies. University of California . Presentation to the International Airport Noise Symposium, San Diego , California . Page 4.

Larry Ellison v. City of San Jose .