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## Improve Your Knowledge

### BRAZILIAN REGULATION ON AVIATION NOISE – Part I

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News announcing the construction or expansion of an airport are always followed by a big concern of the people living in the surrounding area, with the noise associated with aircraft operation. Noise has an impact on the environment and with the quality of life of the people and animals affected. This paper will discuss the subject of noise aviation, starting with a representative example of what was said above, and continuing with an analysis of the authorities and regulation dealing with the subject.

The case, currently running, refers to the city of Sacramento, California, USA, where the local authorities announced the intention to expand the Mather Airport operations. The objective is to transform the Mather Airport in an important air cargo hub. The announcement has triggered a huge controversy between the authorities and the public affected, with arguments pro and against the initiative.

The Sacramento County's goal to make Mather Airport "The Jet Air Cargo Hub of the Pacific Rim" is in the public view a serious threat to the environment and the quality of life of the people due to the many cargo jets flying at night over their homes. They argue that in USA most of air cargo fly at night; then they comply "in this case they will fly over our homes and sleeping (attempting to sleep) families". The people created a movement against the proposal to expand the Mather Airport called "Communities for a Responsible Mather Airport" (CRMA), and a website (home page [www.keepthepeace.org](http://www.keepthepeace.org)), where they debate and argue against the initiative. In that website, among other information, is highlighted the following sentence: **"Aviation is the only transport form not regulated in any significant way to reduce environmental impact"**. The phrase is quoted without attribution on the home page.

The CRMA although appear to represent majority of people, is not the only voice. Some individuals, who diverges the CRMA position,

have pointed out errors and misinformation displayed by CRMA supporters. One of these voices is that of Paul Ravelling, an aviation enthusiast, which has also a website where he rebates many of the CRMA information and arguments (home page [www.sierrafoot.org](http://www.sierrafoot.org)). You may follow the controversy taking a look on both home pages and related consulting material.

You may ask the reason for that introduction, and more, why to bring an example from a city in the USA instead of one from Brazil. We may point out two main reasons for this choice. First of all, the case looks to be didactic and universal, indicating that may occurs in any city worldwide. In second place, the fact that the Brazilian aviation noise regulation is based on the US Federal Aviation Regulation of the FAA (Federal Aviation Administration).

Let us analyze in more details the two reasons presented above. The case of Sacramento County and the proposal for expansion of its Mather Airport shows clearly the conflict that can be established inside the community affected by the change. In this case due to the expectative of a dramatic increase of noise, aggravated by the fact that the expansion is focused on air cargo operation which occurs mainly at night. The case illustrates the behaviors of the groups pro and against the initiative; the information and argues of any kind used in the debate, including some of technical nature. It also shows the overacting and misinformation from both sides which is normally expected in such cases.

From the several aspects that may be analyzed, let us focused on a point that shows better than any other what was said above. We refer to the quoted phrase shown on the CRMA website, commented before. The sentence is important for our discussion, due to the fact that presents as a definitive true, aviation as being the only transport form not regulated in any significant way to reduce environmental impact. First reading of sentence may lead to understand that aviation noise is not regulated. A more careful

reading may consider that although there is some regulation, it is inadequate or ineffective to reduce environmental impact. Thus, if from one standpoint the phrase may be considered wrong, even a misinformation, by the other may reflect the challenge faced by the authority in establishing a rule, which is: to protect the public but, at the same time, allowing the development of the activity being regulated, in this case, the aviation industry and air transportation.

There will be always some degree of subjectivity in establishing acceptable standards by the authority. What is acceptable for somebody may be unacceptable for others. It is important that the standards be established with balance, taking into account the innovation and state of the art in technology.

The second reason, may be most significant, consists in the fact that the Brazilian Authority responsible for civil aviation, ANAC (National Civil Aviation Agency-Brazil), when established the noise standards for aircraft type and airworthiness certification, RBAC 36 (Brazilian Civil Aviation Regulation), adopted the FAA corresponding regulation, i.e., the CFR Part 36. Thus, we can see that Brazil and USA use the same requirements (standards and procedures) for issuance of aircraft type (design) and airworthiness certificates (individual aircraft operation). However, there are some differences regarding noise in the operational requirements between USA and Brazil; as indicated on corresponding RBAC and 14 CFR, Parts 91, 121, 135, etc. The differences are not significant and refer mainly to the time limits for some old models to comply with current noise standards. Larger periods were established in the Brazilian regulation; however, major portion of those already expired. Thus, we can conclude that in practical terms the aircraft noise standards are the same in both countries.

Let us consider now in more details the history and evolution of the responsible authority and corresponding regulation on the subject, as suggested by the title of this paper. As the Brazilian requirements on aircraft noise are similar to those of FAA, the history and evolution of the regulation will involve necessarily the evolution in USA.

The Environmental Protection Agency (EPA) is in the USA the authority in charge to protect the environment. It was created by President Nixon in 2 December 1972, as a consequence of the

National Environmental Policy Act (NEPA-1969), which established the environmental national policy. As responsible for the environment, EPA is also in charge for the noise produced by transportation, machinery, industries, etc. However, when EPA was created, FAA created well before, already has issued noise standards for aircraft. Thus, the Noise Control Act of 1972, established functions and responsibilities of the EPA and maintain for aircraft noise only, the definitions and rules established by the FAA.

Continue on the next IYK.

References and other useful information:

- Aircraft Noise Abatement Act - 1968 - Authorized FAA to prescribe standards and issue regulations (USA).
- FAA 14 CFR Part 36 -Noise Standards (USA).
- ANAC RBAC 36 - Requisitos de Ruído para Aeronave: adoption of 14 CFR Part 36 (Brazil).
- National Environmental Policy Act - NEPA 1969 - Established US environmental policy (USA).
- EPA- Environmental Protection Agency - Created in 1970 (USA).
- OACI Annex 16 -Environmental Protection-(1971).
- IBAMA - Instituto Brasileiro do Meio Ambiente e dos recursos Naturais Renováveis - Created by Lei 7735 22 February 1989, initially linked to Ministério do Interior; currently linked to MMA (Brazil).
- MMA - Ministério do Meio Ambiente, dos Recursos Hídricos e da Amazônia Legal- Created by Lei 8490 19 November 1992, replace SEMAM (Sec. do MA) Presidência da República (Brazil).
- FAA 14 CFR 150 - Airport Noise Compatibility Planning (USA).
- ANAC RBAC 161 - Planos de Zoneamento de Ruído de Aeronaves - Resolução ANAC 153 18 June 2010 and Lei 7565 19 December 1986 (Código Brasileiro de Aeronáutica) (Brazil).