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BRAZILIAN REGULATION ON AVIATION NOISE – Part II

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(Continue from Part I)

In the previous Part I, as an introduction to the subject, it was presented an actual case, i.e., the proposal for expansion of air cargo operation at the Mather Airport, Sacramento County, Ca, USA. We described the controversy between the people and local authorities, and analyzed the arguments pro and against the initiative. At the end of Part I, started to present the history and evolution of the authorities and regulations dealing with aviation noise. It was described the installation of EPA (Environmental Protection Agency), and the several US Congress Acts related with the subject, as the NEPA (Noise Environmental Policy Act) of 1969 and the NCA (Noise Control Act) of 1972.

We resume the subject, in Part II, from that point.

In the Noise Control Act of 1972, Section 7, Aircraft Noise Standards, is stated that, the Administrator (EPA) shall conduct a study of the adequacy of FAA flight and operational noise controls. It is clear that EPA, although accepting the FAA controls and requirements, is the final responsible authority for the activity. FAA, for aviation noise, is acting with a kind of delegation from EPA, being under its coordination and surveillance. This condition should be one of the reasons, beyond the subject to be significant and sensitive, that lead FAA to retain the approval with the noise requirements in all type certification and validation programs.

It is important to point out, that the aircraft noise requirements as those adopted by the USA, Brazil, Europe and other countries, should be compatible with the noise requirements established and recommended by ICAO (International Civil Aviation Organization), the UN Agency in charge of civil aviation. The Annex 16, Environmental Protection, issued in 1971, established the ICAO aviation noise standards. The first issue of 14 CFR Part 36, dated 1st December 1971, served as the basic reference to prepare the first issue of the ICAO Annex 16.

Examples of similar codes for aircraft noise standards are the JAR 36 from JAA (Joint Aviation Authorities), CS 36 from EASA (European Aviation Safety Agency) of the European Community, and the AP-36 from Russia. All countries members of ICAO, including Brazil, have the formal commitment to comply with the noise standards established by ICAO. To comply with FAA 14 CFR Part 36 or ANAC RBAC 36, as well as, with the others codes referred above, is also valid in showing compliance with ICAO Annex 16; once all of them represent the implementation of ICAO Annex 16 in the corresponding requirements.

Another aspect to point out refers to the fact that we have focused on the aviation noise from the standpoint of aircraft design and individual operation. The aviation noise resulting from multiple aircraft operation in airports, and how this aviation noise interferes with the population living in the affected area, is again the final responsibility of the authority in charge of the environmental protection. In the case of the USA, this authority is the EPA. In the case of Brazil, in the best of our knowledge, this authority is the MMA (Ministry of Environment), through the IBAMA (Brazilian Institute for Environment) and, by delegation, through other states and local organizations. However, the starting point are the aircraft noise characteristics, and the actions taken to maintain acceptable aviation noise standards in the airport areas, will be done imposing operational limitations, operational time or periods for some or all aircraft, or using other mechanisms or measures.

Although the final responsibility for environmental protection and corresponding approvals, including noise, remain with the corresponding authorities, EPA in the USA and MMA/IBAMA in Brazil, the controls and requirements on aviation noise, are administered by the civil aviation authorities, FAA and ANAC, respectively. Both authorities have issued requirements for aircraft noise, as already shown, but also for airport noise, which

should be complied by those that intend to change or build airports.

In USA the 14 CFR 150 “Airport Noise Compatibility Planning”, issued in 1984 and later revisions, is the FAA regulation establishing the procedures, standards and methodology for the development of maps on noise exposure and programs for noise compatibility in airports.

In Brazil ANAC issued the RBAC 161 “Planos de Zoneamento de Ruído de Aeroportos” (Airport Noise Zone Analysis Planning), issued in 2011, establishing the requirements to prepare the Noise Zone Analysis Plan (PZR), and the technical criteria for aviation noise related questions. We present below the definition in section 161.1(p) for the term **aeronautical noise**: “noise originated during aircraft holding, approach, landing, takeoff, climb, taxi and engine testing, not considering the service and auxiliary equipment, for PZR purposes”.

It is important to point out that the EPA and FAA regulation make clear the relationship between both authorities: EPA responsible for the environment as a whole, and FAA acting specifically in aviation noise on its behalf. We did not find in the MMA and ANAC regulation any explicit text indicating the relationship between both organizations regarding aviation noise. However, it is our understanding that from the rules and functions of MMA and ANAC is possible to conclude what are the role and scope of each organization.

In summary, aviation noise is a subject very complex and sensitive. The organizations in charge should conduct the administration of regulations and controls on aviation noise in good coordination with all parties involved and which are important players on the final result.

At last, going back to our initial example and remembering the strong sentence about aviation to be the only transportation form without an effective regulation for noise prevention, we would like to inform that, the only transportation form with no regulation regarding noise is the maritime. At least we did not find any reference regarding maritime noise regulations neither in the USA or Brazil.

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 (EUA).
- 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).
- ICAO 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).