

The Airport noise

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Term of reference

- 1. Italian framework rules;**
- 2. State of the art;**
- 3. Positive elements;**
- 4. Critical aspects.**

Italian framework rules

Airport noise in Italy needs a specific regulation according to:

- peculiar aspects depending on the noise during taking off and landing phases often close to urban areas;
- Italian morphologic and orographic characteristics;
- high urbanization which do not allow to have wide free areas devoted as airport areas.

Over the years air transportation and the related air movement have become more and more huge and need a specific regulation which helps to manage the item in a strategic and sustainable way according to the growing of the towns and the needs of the population.

Two years later then the publication of the framework law n.447/1995 on acoustic pollution, several decrees on airport noise have been published in order to make operative the law.

Lines of action of the Italian legislative approach on airport noise

- Characterization of areas close to the airport, in order to fix noise limit for each area establishing limit according to the different uses of the areas;
- Definition of specific methodology of measure of the noise made by the air transport;
- Definition of anti-noise procedure for each airport which must be respected by airplanes during taking off and landing phases and during landing operation;

- Duty of utilization of monitoring system in continuous of the airport noise in order to guarantee and check the respect of limits for protecting people, controlling noise let out by the airplanes, verifying the actions achieved against noise;
- Classification of the national airports on the basis of the noise let out on the surrounding areas;
- Duty of adoption of measures of reclamation in case of the overcoming of limits;
- Restrictions of the air traffic at night.

Italian decrees on airport noise

- **Decree 31/10/97 on Measurement methodology of airport noise;**
- **Decree n.496, 11th December 1997, on regulations for the reduction of acoustic pollution caused by civil aircrafts;**
- **Decree 20/5/99 which defines criteria for the design of monitoring systems for controlling acoustic pollution levels close to the airports and criteria for the airport classification related to the acoustic pollution level;**

- **Decree 3/12/99 regarding anti noise measures and respect areas in the airports;**
- **Decree n.476, 9th November 1999, which modifies the Decree of the President of Republic n.496, 11th December 1997 on the ban of air traffic at night.**

According to the above decrees, each Italian airport devoted to civil transportation must provide a set up of a continuous monitoring system around the airport area able to get possible overtaking of the fixed limits.

Moreover, each airport must establish a Commission whose duties are the followings

- Classification of the airport according to the acoustic pollution produced, on the basis of the following parameters: extension of the airport area, extension of the three zonation ranges, extension of the residential areas which are into the pertinence zones, house density in each pertinence zone. On the basis of these parameters it is possible to get indices which allow to classify the airport;

- Provide the anti noise measures for the airport on the basis of the general criteria of the Italian decrees; the main objective is the optimization of noise aircraft noise at land in order to safeguard as best it is possible the exposed population;
- Provide the definition of the three pertinence zones as requested by Ministry of Environment Decree 3/12/99, according to the different noise limit established by the Decree itself.

State of the art

Since the publication of the framework law n. 447/1995 on acoustic pollution and the Decrees on airport noise, the environmental acoustic Commission on air noise were established in all national airports, but the reached progresses are quite different among the airports.



Particularly:

- the definition of the around airport area has been defined by the airports in percentage of 60%: it represents the starting point, able to allow subsequently the optimisation of the extension of the considered area and the population involved;
- 30% of the airport infrastructures has a noise monitoring system, in some case fully operative, in other case in starting up phase;
- the anti noise measures has been defined only in three airports;

- the definition of the three areas according to the different limit values established by law has been carried out, consequently, by the three airport mentioned above;
- the classification airport index has been identified only for one infrastructure;
- at the moment there is any noise reclamation and reduction of produced noise plan for the air infrastructures.

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Positive elements

- the possibility, supplied by the law, to develop and to share the process with the stakeholders, especially with the Local Administrations, even though this may introduce more difficulties in the process;
- the characterization of the territory, where the presence of the airport infrastructure is undoubtedly a problem, with the aim to balance sustainable environmental impacts and a chance of a future growth of the infrastructure;

Positive elements

- the continuous control of the noise released by the monitoring system;
- the possibility to inform the community about the monitored data through web site dedicated, reports or newsletters;
- the application of economic sanctions towards air companies, in the presence of the non-observance of the anti noise measures, when produces excessive noise. The amount of economic sanctions may be spent for anti noise plans and projects and to achieve a better acoustic climate of the area close to the airport.

Critical aspects

- in some experiences the complexity of the territory and the presence of many local municipalities in the Noise Airport Commissions, where everyone has got its own interests, have caused conflicts of interest, delays in the activities and the need to study and try models, different hypothesis and scenarios proposed by the all involved administrations;
- another reason of conflict inside the Commission is the obligation to choose an option if only it has been shared and chosen by the all involved stakeholders; the chance of options concerns the input noise data for the forecast model, i.e.: size and distribution of the air traffic, dispersion of flight courses, stage aircrafts, other technical characteristics of the aircrafts;

Critical aspects

- the utilization of a specific acoustical air traffic noise parameter, the Lva (Level of Airport noise) different from environmental noise parameter, Leq (Equivalent Energetic Level), and that it is used for evaluating the acoustic classification of the areas close to the airport, causes difficulties, when there is the need to make comparison, especially in boundary situations and in presence of actions belonging to the different policy makers;
- the inadequate knowledge about the people distribution among the different areas of the national territory which does not allow a correct and adequate evaluation of the people exposed according to the acoustic classification of each airport;

Critical aspects

- the lack of a deadline on the duties requested by the Italian legislation and the consequent absence of the economic sanctions create delay in the process and the impossibility to act with other repressive instruments;
- the implementation of END 2002/49/CE, carried out in Italy by the Decree 194/2005, which changes in different aspects the current national law, i.e. the use of acoustical parameter L_{den} .