



DRAFT OF THE GUIDANCE DOCUMENT OF THE RUSSIAN FEDERATION ON JUSTIFICATION OF SANITARY PROTECTION ZONES AROUND AIRPORTS

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Abstract. Boundaries of the sanitary protection zones around airports are defined by calculation and proved by measurements for three factors mainly: local air quality, aircraft noise and electromagnetic fields. For all the factors the guidance includes the procedures necessary to be used for calculation and measurements. For example, for aircraft noise evaluation the content of the guide is the following [1–3]:

1. Generalities, purpose and scope of;
2. Normative references;
3. Definitions;
4. Symbols and abbreviations;
5. Normalized parameters of aircraft noise on residential areas;
6. Key factors determining the adverse effects of aviation noise in the vicinity of the airline;
7. Methods for calculating the characteristics of aircraft noise in the vicinity of the airline;
8. Methods of measurement and control of aircraft noise;

Appendix 1. Calculating the flight path parameters;

Appendix 2. Calculating individual sound levels for aircraft noise events;

Appendix 3. Calculation aggregate levels;

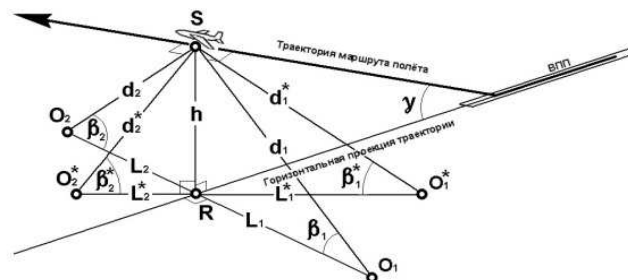
Appendix 4. Modelling flight paths scattering;

Appendix 5. Protocol for sound level measurements of aircraft noise events;

Appendix 6. Defining trajectory parameters in operating conditions.

Specificity of the guide for civil aviation: dependence on the time of the year (it is impossible to measure in the winter) and on intensity of aircraft operation (possible changes in fleet).

Schematic diagram of the full-scale acoustic instrumental measurements and space-time indicators of aircraft noise at source operating conditions:



Keywords: airports, sanitary protection zones, local air quality, aircraft noise, electromagnetic fields.

References

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- [3] Jagniatinskis, A.; Zaporozhets, O.; Kartyshev, O.; Fiks, B. Aircraft noise assessment in the vicinity of airports with different descriptors. Proc. Inter-Noise 2011 „Sound Environment as a Global Issue” Osaka, Japan, September 4-7.