

SUMMARY
OF STUDIES ON EVALUATION OF CONSEQUENCES OF
IMPLEMENTATION OF EU DIRECTIVE 92/14/EEC ON THE LIMITATION
OF THE OPERATION OF AEROPLANES COVERED BY PART II,
CHAPTER 2, VOLUME 1 OF ANNEX 16 TO THE CONVENTION ON
INTERNATIONAL CIVIL AVIATION

Aiming at integration into the international system of civil aviation Lithuanian Civil Aviation has to solve problems of limitations of noise emission from aeroplanes in addition to other problems to be solved. Limitation of level of noise emission from civil subsonic jet aeroplanes with a maximum take-off mass of 34000 kg or more as well as operation of aeroplanes consisting of 19 or more seats is specified in Part II chapter 2 and 3, Volume 1 of Annex 16 to the Convention on International Civil Aviation adopted in Chicago. Chapter 2 describes conditions under which operation of aeroplanes shall be limited and Chapter 3 describes conditions under which operation of such aeroplanes shall be allowed.

Evaluation of consequences of implementation of European Union directive 92/14/EEC on the limitation of the operation of subsonic jet aeroplanes covered by Part II, 2 Chapter, Volume 1 (Aviation noise) of Annex 16 is made in this study.

Herein

regulations indispensable for implementation of requirements covered by Directive 92/14/EEC are established and institutions responsible for implementation of these regulations are indicated;

analysis of requirements of Directive 92/14/EEC and of international experience in its implementation is made;

analysis of demand for financial resources needed to create systems of noise control in airports of Lithuania is made;

investigation of the fleet of air carriers of the Republic of Lithuania is completed,

analysis of demand for funds needed to replace Lithuanian aeroplanes which do not meet the requirements of directive is made;

analysis of reduction of revenue from air navigation services related with preventing aeroplanes belonging to other States, which do not comply with requirements of Directive 92/14/EEC, from operating from other States to Lithuania is made ;

analysis of demand for funds needed to train specialists of civil aviation to work with a new type of aircraft and systems of noise control is made;

analysis of expenses for operating systems of noise control, which are recommended to be created, is made.

Approximation of Lithuanian Law with EU directive 92/14/EEC requires:

1) "Regulations of limitation of operation of aeroplanes at the airports of the Republic of Lithuania" to be approved by order of the Transport Minister of the Republic of Lithuania and the Environmental Protection Minister of the Republic of Lithuania. It shall contain provisions, restrictions and requirements specified in Directive 92/14/EEC as well as exceptions allowing temporary operation to certain airports situated in Lithuania of aeroplanes of the third countries operating some non-commercial flights provided that EU Commission shall be notified of such exceptions.

2) To supplement "Rules of civil aeroplanes registration and marking" approved by the order No.376 of the Transport Minister of the Republic of Lithuania dated 8 October 1999 with requirements to restrict the addition to register of aeroplanes

unless they are granted a relevant noise certificate and to recognise noise certificate granted by other EU Member States.

3) To supplement Administrative Code of the Republic of Lithuania with systems of penalties and application of penalties for breaching the rules of limitation of flight limitation.

The most important requirement of EU Directive 92/14/EEC is to control whether aeroplanes operated at national airports are granted noise certificates which comply with the requirements of Chicago Convention.

Analysis of need to create noise control systems.

Main requirement of EU Directive 92/14EEC is to control whether aircraft operating at airports are granted noise certificate to the requirements of Chicago Convention.

As it can be seen from analysis of international experience and technical requirements for noise control systems airports can have minimal only for control applied noise control systems and developed systems for aircraft certification.

States, which do not manufacture aeroplanes depending on directive, do not have any need to certificate them, therefore they can refrain from creating their own technical systems of noise level control.

Under the requirements of European Union Directive 92/14EEC and amending Directive 98/20/EC subsonic jet aeroplanes cannot operate at airports of EU Member States starting with 1 April 2002, if they do not meet standards of Chapter 3 of Annex 16 of Convention mentioned above. EU Member States shall apply effective, proportionate and dissuasive penalties for breaching these requirements.

Candidate States shall meet the requirements of Directives mentioned above starting with the date of entering EU.

Establishment of noise control system aimed at use of measured results by applying penalties to aeroplane causing increased noise is not effective from the legal point of view because solitary instances of increased level of noise cannot be legal basis to cast doubts on noise level from aeroplane granted certificate all the more that Lithuanian would not have any technical or legal possibilities to make tests of certification to aircraft with increased level of noise.

It would be purposeful to have systems of noise measurement at airports of Lithuania to evaluate effect on environment and human health while planning schemes of aircraft landing - take-off by scheduling flights and creating systems of protection of inhabitants from noise.

With this purpose and taking into account the fact that landing and take-off of aeroplanes are performed on two destinations of runway, it is necessary to have at least 4 stationary noise measuring stations (two against each end of runway and one mobile station to measure level of noise in one of two control points aside from runway depending on meteorological conditions and types of aircraft operated in aerodrome.

Stages of creation of computerised noise control system.

Computerised noise control system can be created in two stages at Lithuanian international airports.

At the first stage it would be purposeful to arrange four stations of noise level control at each airport situated in Vilnius, Kaunas and Siauliai and two in Palanga airport, also one mobile unit of noise measurement at each airport and one computerised base of noise data in Vilnius.

In addition at the second stage it is proposed to arrange stationary stations of noise measurement: 6 at Vilnius airport, 4 at each Kaunas and Siauliai airports and 2

at Palanga airport, taking into account necessity to evaluate impact of noise from aeroplanes on inhabited environment at sanitary protection zones of aerodromes.

Responsible institution.

Transport Ministry and Civil Aviation Administration are responsible for implementation of Directive 92/14/EEC. Their main functions in this field are:

- to ensure that aeroplanes which do not comply with the corresponding requirements for noise emission covered by Chicago Convention shall not be registered on civil aeroplanes' register of the Republic of Lithuania;
- to ensure that only subsonic jet aeroplanes granted noise certification which comply with the requirements for noise emission covered by 3 Chapter, Volume 1 of Annex 16 to the Chicago Convention shall be operated at airports of the Republic of Lithuania;
- to prepare and report EU Commission on matters of implementation of Directive 92/14/EEC.

Preliminary expenses of creation of noise control system.

Referring to experience of countries which arranged noise control systems under projects of Bruel and Kjaer Sound and Vibration Measurement A/S (Denmark) Lithuanian international airports would need these funds at the first stage: 1.37 mil.Lt in Vilnius, 1.2 mil. Lt in Kaunas, 0.61 mil Lt in Palanga and 1.2 mil. Lt in Siauliai. Totally at the first stage Lithuania will need an amount of 4.38 mil Lt. Total amount of 6.58 mil. Lt will be needed for implementation of the both first and second stages.

More detailed amount of required financing of creation of noise control systems could be calculated only after the minimal quantity of noise measurement points is indicated and corresponding projects are prepared.

Detailed program of noise emission control and project of system could be created after calculations, measurements and research of field are completed and initial project is prepared.

Each airport will need not less than three specialists for supervision of noise emission system. Annual expenses of maintenance of specialists and supervision of system would amount to 288000 Lt, however these expenses could be reduced by creation of centralised automatic control system.

Optimistic variant of noise control system is discussed in this study provided that all four international airports of Lithuania will be developed. If measures to increase loading of Kaunas and Siauliai airports are not found, their status can be changed. In this case question of creation of noise control system in these airports shall be discussed separately.

Expenses of introduction of noise control equipment are high in comparison with revenue received by the air service sector of Lithuania for noisy aircraft. Therefore, it would be purposeful to negotiate about financing implementation of noise control systems at international airports of Lithuania from international funds with reference to the fact that system is being implemented under the requirements of European Union

If international funds are not available, financing of noise control systems shall be provided from the State budget taking into account economical and financial situation of Lithuanian airports.

Lithuanian international airports have to provide financing for specialists of noise control system usage and supervision.

Required changes of aircraft fleet.

EU Directive 92/14/EEC regulates only operation of subsonic jet aeroplanes. 7 aviation companies are registered in Lithuania. Only 3 aircraft of two airlines do not

comply with noise emission standards. Lithuanian Airlines owns two Boeing 737-200 aircraft and Transaviabaltika owns one LEAR JET 25B aircraft. Limitations of noise emission from aeroplanes will not influence activity of other aviation companies.

The Management of Transaviabaltika airline asserts that by the time requirements of Directive 92/14/EEC come into force it will have sold noisy aircraft LEAR JET 25B as it plans to delete it from the aircraft register of Lithuania in the nearest future.

Seeking to minimise expenses of replacement of noisy aircraft and not to increase number of aircraft types Lithuanian Airlines plans to lease away two Boeing 737-200 and to replace them with two other aircraft (one Boeing 737-300 and one SAAB 2000) which comply with requirements of EU Directives. This scheme of aircraft replacement will not increase the number of aircraft types and will reduce expenses of newly leased aircraft operation.

Expenses of aircraft fleet replacement.

Taking into consideration this strategy, expenses of aircraft fleet maintenance and replacement by purchase on a financial lease basis would amount to 29502400 Lt in two years. Expenses of pilot training would amount to 1247892 Lt, expenses of technical staff training would amount to 472000 Lt. Total expenses of aircraft fleet replacement and maintenance would amount to 30 mil. Lt.

Requirements of Directive 92/14/EEC and amending Directive 98/20/EC will come into force starting with the 1st of April 2002 at airports of EU Member States. It is evident that process of privatisation of Lithuanian Airlines will not take place until this date taking into consideration evaluation of the real course of events and unfavourable for privatisation situation in international market of air transport. Therefore, it is doubtful that aircraft fleet replacement will be realised at the expense of investor. Taking into account the fact that one third of the fleet consists of noisy aircraft and seeking to ensure further activity of the airline, which could be interrupted by prohibition of flights of noisy aircraft, airlines has to look for funds for modernisation of the fleet and not to wait for the results of privatisation process.

Financing of aircraft fleet replacement could be provided in stages from international programs of infrastructure development and funds of European Union aimed at preparation for liberalisation of air transport market. The State as a shareholder, could provide support in accordance with the Law of Stock Companies by share emission. The State could buy off the share emission and allot funds in direct investments into the formation of the aircraft fleet.

Influence on the process of privatisation.

Implementation of Directive 92/14/EEC on the limitation of the operation of aeroplanes covered by Part II, 2 Chapter, Volume 1, Annex 16 of International Aviation Convention will not influence process of privatisation in respect of Lithuanian national air carriers.

Influence on the price of passenger tickets.

Implementation of EU Directive 92/14/EEC will not influence the price of passenger tickets, which is determined by the market conditions.

Revenue from air navigation services in airspace and aircraft handling at airports is received from operators paying required taxes. In general taxes payable for services in airspace and airports are these:

- air navigation
- airport navigation
- landing
- escorting
- departing passenger

- grounding
- aviation security

Main revenue of the State Enterprise “Air Navigation” consist of taxes on navigation services provided to aircraft in the Lithuanian airspace and at international airports, i.e. air navigation tax and airport navigation tax.

Airspace of United Kingdom, Germany, France, Netherlands, Belgium and other Western states is filled up with aeroplanes and these States meet the problems of landing and take-off because all the permeability possibilities of available landing and take-off runways are exhausted. Companies providing air navigation services in these and other Western States receive to 85% of all revenue from air navigation services provided for landing and taking-off aircraft. However, in Lithuania capacity of airports are used only to about 30%, therefore financial possibilities of airports depend on transit aircraft flights in amount of 85%.

Since the main part of revenue of State Enterprise “Air Navigation” consists of revenue from transit flights (air navigation tax), it should not be significantly changed after the implementation of Directive 92/14/EEC is completed.

Most of noisy aircraft operate to Vilnius and Kaunas airports. Airport navigation taxes received by State Enterprise “Air navigation” from landing and taking-off aircraft which do not comply with requirements of III Chapter, Part II, Volume I, Annex 16 of Chicago Convention amount to 2,5% (428300 Lt) at Vilnius airport and 19 % (133828 Lt) at Kaunas airport. These are relatively little amounts.

It can be asserted that revenue received by the State Enterprise “Air navigation” would change insignificantly after the implementation of Directive 92/14/EEC is completed.

These taxes are important to Lithuanian international airports:

1) Aircraft landing. Aircraft has to pay this tax after landing. This tax is of the fixed size and is invariable.

2) Departing passenger. Size of this tax is not fixed because it depends on the number of departing passengers on aircraft.

3) Aviation security. This tax is payable, if aircraft lands at international airport and amounts to 10% of tax on aircraft landing.

Aircraft grounding and escorting taxes are not so important to international airports with respect to their revenue because they are payable not in every case. Main revenues are received from regular (charter) flights whereas grounding in the territory of airport does not exceed 3 hours and pilots are well acquainted with the aerodrome, therefore they do not use escorting service.

Revenue received by Lithuanian International Airports for services provided to aircraft which do not comply with standards of III Chapter, Part II, Volume I, Annex 16 of Chicago Convention amount to 2,5% (982 168 Lt) at Vilnius airport and 70 % (1 571 372 Lt) at Kaunas airport (data of 2000). This amount is very significant to Kaunas airport.

It is necessary to negotiate with European Union and to postpone implementation of Directive 92/14/EEC at Vilnius and Kaunas international airports at least.

Demand for funds needed to train specialists.

Demand for financing needed to train specialists to work with a new type of aircraft and noise control systems could be divided into two parts: financing of specialists of Lithuanian Airlines to work with a new type of aircraft and financing of specialists using and supervising noise control systems.

Until 31 October 2002 Lithuanian Airlines will need 1248000 Lt for training crews as it plans to lease one Boeing 737-300 and one SAAB 2000 aircraft.

An amount of 24000 Lt is needed to train noise control and supervision specialists. Lithuanian International Vilnius, Kaunas, Palanga and Siauliai airports in equal parts each in amount of 6000 Lt could finance this amount.

Structure of study.

This study contains 8 chapters, 5 annexes to summary in Lithuanian and English languages, 51 pages of text, 11 pictures, 15 tables. 7 resources of literature are used in this study. Total volume of this study amounts to 82 pages. Study is prepared by the staff of Antano Gustaičio Aviation institute of Vilnius Gedimino Technical University and enterprises of Lithuanian Aviation under the leadership of Professor Jonas Stankunas.