TRAINING ASPECTS OF IMPLEMENTATION OF THE JAR REGULATIONS IN THE CZECH REPUBLIC

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Keywords:JAR regulations, training, aironautical industry, civil aviation authorities

Abstract

Since November 1999 the Institute of Aerospace Engineering FME at the Brno University of Technology has (hereinafter IAE) been implementing the Phare Tempus Project designed to support the implementation of joint European aviation legislation and JAR regulations in the Czech Republic. The Project was implemented in the framework of European Union policy of "Institutional Building" aiming at supporting the process of harmonisation of legislation bases and development of relevant public administration structures in Central and Eastern European countries to support the process of their accession to the European Union.

The Project itself has been aiming at development and delivery of specific training courses in the area of civil aviation administration with the focus on implementation of joint European aviation legislation with the special focus on European Aviation Law, Airworthiness and Certification, Licensing and Approvals and in particular on specific JAR regulations: JAR-21, JAR-OPS, JAR-145, JAR-FCL, JAR-147, JAR-66. It also aims at supporting the process of relevant changes in the civil aviation administration institutions in the Czech Republic, mainly using the training interventions focused at supporting the process of identification of necessary organisational changes and effecting the development of organisational culture and organisational behaviour in the Czech civil aviation administration sector.

The article gives generalized experience in the process of implementation of JAR regulations training in the Czech Republic. It also gives the summary of development of effective training interventions to support the implementation process in other Central and Eastern European countries.

1 General Introduction

Since the aeronautical sector has relatively strong base, history and traditions in the Czech Republic, it has very complex conditions for harmonisation of aviation regulatory bases. The history of the Czech aeronautical industry goes back to the 10s of 20th century. The first aircraft producing company was established in 1918 in Prague (Letov). Since that the Czech aeronautical industry has been rapidly growing and became traditional part of the industrial profile of the Czech Republic. Nowadays, in spite of economic difficulties, the aeronatical industry is one of the important sectors in the Czech economy. The percentage structure of the products of Czech aeronautical industry is 86% of complete systems (aircraft: L159 military jet trainers, L410&L510 commuters, L23,L33 gliders, Z142,Z143 Zlin sport and training aircraft etc.), 5% engines (turboprop M601, series of piston engines, etc.) and 7% avionics and equipment. Among the complete systems the military training and combat aeroplanes represents 83%, commuter aeroplanes 14% and 3% of general aviation aircraft. The percentage is related to the overall turnover of the industry. In the economic terms, the economic peak of the aeronautical industry was achieved in 1987, when the overall turnover of the sector was around 617 mln EUR, i.e. more that 1% of the overall turnover of the European aeronautical sector in the European Union in this year. At the moment the Czech aeronautical industry has around 12,000 employees. The overall basic

capital is 6.9 mld CZK (i.e. 200 mln EUR) and the asset 32 mld CZK (920 mln EUR).

Apart from the national civil aviation regulation system, three other aviation regulatory bases were implemented in the Czech Republic in the near past and recently – Russian ENGLS, U.S. FAR and recently joint European JAR. Since November 2000 the Czech Republic has become a full member of the Joint Aviation Authorities, which requires full implementation of JAR regulation system. The transition and full implementation of the regulatory systems is a difficult process which brings needs of organisational and conceptual changes and in particular costs, which is not always easily acceptable by the industry. That is why the process itself faced a lot of problems and contradictory interactions. In addition the solutions found had to reflect specific national situations. Since the successful implementation required rather collaborative than directive communication and co-operation between both the regulators - civil aviation authorities, and industry as a regulated entities, the process is mainly about the relevant changes related to organisational culture and organisational behaviour in both civil aviation administration institutions and the industry.

2. Training Concept

The harmonisation of legislation, including those in the sector of civil aviation, is one of important accession steps for countries of Central and Eastern Europe. Central and Eastern European countries (hereinafter CEE countries) aspire to become members of the European civil aviation institutions like Joint Aviation Authorities (hereinafter JAA). The membership is conditioned by achieving the certain level of implementation of European civil aviation legislation and in particular the Joint Aviation Requirements (hereinafter JAR regulations).

The Czech Republic is one of most advanced CEEC in transformation of civil aviation administration system which resulted in accepting the Czech Republic as a full member of JAA in December 2000. The Czech Republic has been successfully progressing in implementation of JAR regulations in the Czech aeronautical industry and air transport sector in last couple of years including in the process of transformation of civil aviation administration sector.

From 1999-2003 the Phare Tempus project IB_JEP 14121-1999 titled ECADS (European Civil Aviation Administration Development Scheme) was to develop the training system supporting the implementation of JAR regulations in the Czech aeronautical industry. The complex training and consultancy system for JAR regulations was established and has been operating since 2001. The project has made significant achievements:

15 courses and a system of consultations has been developed in the areas relevant to the transformation needs of civil aviation sector in the Czech Republic. The overall JAR training programme is divided into three main parts:

- the general curriculum designed to develop overall awareness in certification, airworthiness, licensing and approving of aviation organisations, flight and ground personnel

- the specific curriculum designed to develop specific competencies for the use and implementation of specific JAR regulations in the aviation organisations.

JAR regulation consultations in order to support the implementation of JARs in companies

3. General Curriculum

- European Aviation Law (2-day course)
- JAA Approvals and Licensing (2-day course)
- JAA Certification and Airworthiness: Type Certification of Aircraft (2-day course)
- Managing Aviation Organisations (2-day course)

Specific curriculum:

- JAR-21 General (1-day course)
- JAR-21 DOA (2-day course)
- JAR-21 POA (2-day course)
- JAR-OPS 1 (3-day course)
- JAR-OPS 1 Part M (1-day course)
- JAR-145 (3-day course)
- JAR-FCL General (2-day course)
- JAR-FCL Air Transport (1-day course)
- JAR-FCL General Aviation (1-day course)
- JAR-66 (1-day course)
- JAR-147 (1-day course)

The courses and consultations were developed as a joint initiative of the Institute of Aerospace Engineering FME Brno University of Technology (coordinator), CZ Civil Aviation Authority, CZ Ministry of Transport and Communications, UK Civil Aviation Authority and the University of Bristol with the support of Joint Aviation Authorities as an associated partner and other Phare Tempus project partner organisations in particular the Faculty of Law at the Palacky University of Olomouc, CZ Association of Aircraft Manufacturers, CZ Association of Aircraft Carriers, Politecnico di Torino, I , Aviation Board of Economic Committee of the Parliament of Czech Republic.

The courses are designed for both the representatives of the civil aviation administration sector (governmental sector: Civil Aviation Authorities, Ministries of Transport, Ministries of Industry and Trade, Ministries of Defense and other governmental bodies) and the aeronautical industry and air transport. More than 1400 participants from the Czech civil aviation sector have been trained in the pilot delivery of courses so far (March 2004) of which 500 participations came from the civil aviation administration sector in the Czech Republic.

In 2002 the national validation was granted by the Czech Ministry of Transport as well as the international validation conducted by the international validation panel led by the UK Civil Aviation Authority under the observation of the Joint Aviation Authorities. The aim of the national validation was to provide recognition of the courses in the national civil aviation sector in the Czech Republic (as well as in Slovakia). In order to extend the training market the international validation aimed primarily to provide training for the representatives of Central and Eastern Europe. The following countries were targetted: (in the alphabetical order) Baltic States (Estonia, Latvia, Lithuania), Balkan States (Bosnia and Herzegovina, FYR Macedonia, Yugoslavia), Bulgaria, Hungary, Poland, Romania, Slovakia, Slovenia, Ukraine and other countries of Central and Eastern Europe (furthermore „CEE territory“).

The rationale of the extension of the JAR training programme delivery in the CEE territory is based on the following ideas:

- The Czech Republic has a long tradition in the aircraft manufacturing and air transport industry and has a positive reputation among CEEC
- The Czech Republic as a full member of JAA and recently also EASA is one of the most advanced CEEC in the area of harmonisation and implementation of European civil aviation legislation including JAR regulations
- For historical reasons the Czech Republic understands the environment of other CEECs and the experience (problems and lessons learned) of the Czech Republic with implementation of JARs is very relevant also for other CEEC.

Fig. 1. Target countries for JAR training courses

The international course delivery started in 2003 with the support of ECAC (European Civil Aviation Conference). Around 100 CAA experts from Central and Eastern European countries completed training in Brno in the Czech Republic.

3. Target groups

The target group for the JAR training programme is represented by:

- Managers and officers in aircraft manufacturing and air transport organisations responsible and dealing with quality management, airworthiness and those responsible for implementation of JAR regulations as counterparts for communication with the civil aviation authorities in process of aircraft and its parts

certifications, licensing and approving the aviation organisation, flight and ground personnel

- Executive managers of the aircraft manufacturing and air transport organisations
- Representatives of civil aviation administration sector, in particular civil servants at Ministry of Transport and Communications, Ministry of Industry and Trade and other governmental bodies as well as M.Ps dealing with civil aviation who need broadening and deepening their competencies in the JAR regulatory system.
- Inspectors and chief inspectors, counsellors and supervisors at the civil aviation administration sector (CAAs) who need developing specific competencies related to the implementation of the JAR regulations
- Lawyers dealing with the international and national aviation law

The specific target group consists of the representatives of military aviation and air force at the Ministry of Defence, military aviation authorities and other organisations dealing with coordination of civil and military operations and intersectional relations. The most relevant training is in particular on JAR-145, JAR-21, JAR-FCL, JAR-66 and JAR-147

The special target group relevant in particular to JAR-FCL, JAR-66 and JAR-147 is represented by managers of aviation schools dealing with training of flight and ground personnel, representatives of aeroclubs for amateur flight training and operations as well as pilot-examiners and pilot-inspectors providing the training supervision.

4. Course delivery organisation

The JAR training programme delivery concept counts on the centralised delivery of the programme at the JAR training centre operated in Brno in the Czech Republic. Brno is an industrial city traditionally connected with both the civil and military aviation higher and continuing professional training in the Czech Republic.

Teaching of civil aviation aeronautical subjects has long traditions going before the Second World War, when in 1938 the aircraft design specialisation was taught at the Brno University of Technology (established in 1899). The Institute of Aerospace Engineering FME is the leading higher education establishment for aviation education in the Czech Republic with 60 undergraduate students, 21 internal and 23 external doctoral students and 35 internal staff members.
Quality assurance and monitoring is considered as a crucial element for the delivery of the Programme. The relevant bodies and positions are formally established to co-ordinate and monitor the quality of the Programme delivery process. The quality assurance model proposed for the Programme can be seen in Figure below.

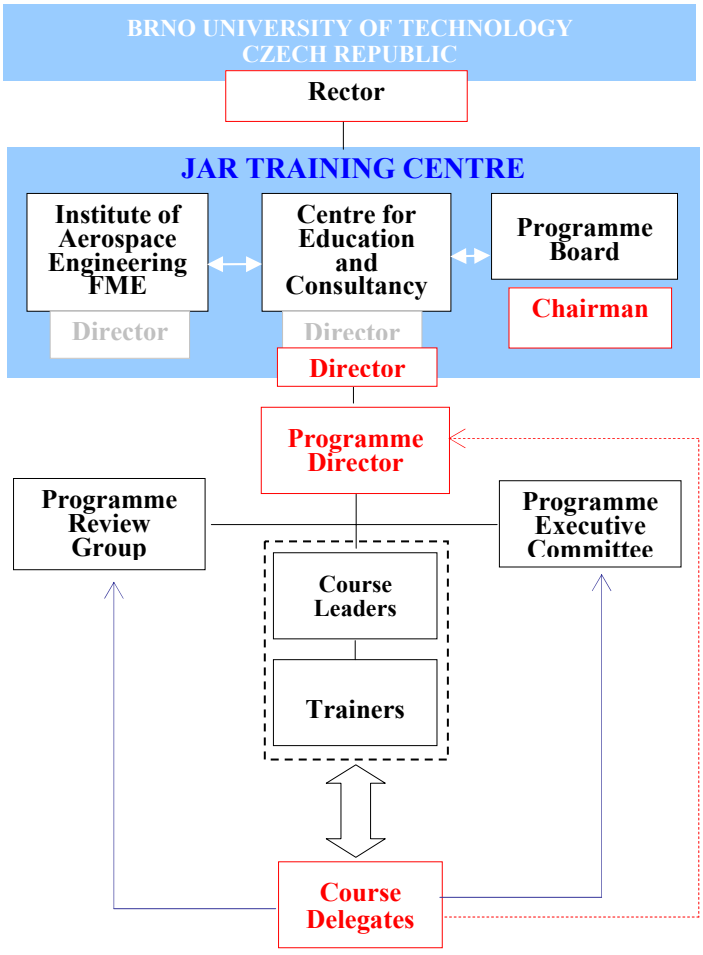

Fig. 2. Organisation of JAR training delivery

Programme Board (P.B.) is established to define and monitor the training processes and

supervise quality assurance of the JAR training programme at the JAR Training Centre. The Programme Board is chaired by the UK Civil Aviation Authority.

The Programme Executive Committee (P.E.C.) is an executive body appointed by the Programme Board to coordinate Programme activities, to support the on-site decision-making processes and to monitor and supervise the quality assurance of the Programme.

The Programme Review Group (P.R.G.) is established for Programme and consists of invited representatives of the employers of course delegates' from the aeronautical industry and civil aviation authorities of the target CEE countries as well as independent representatives of international civil aviation organisations. The group is designed to make a periodical review of the Programme and stimulate the programme improvements and further development.

5. Conclusions

In 2003 the new European regulatory body started its operation. After joining EU the Czech Republic became automatically an EASA related country. The new regulations IR/PART built on the JARs are in process of development and implementation in EU member states. This also effected the JAR training system operating in Brno, the Czech Republic. This definitively results in splitting the system to JARs and new regulations. JAR are still relevant regulations for non-EU Central and Eastern European countries and JAR training seems still a relevant issue. On the other hand the process of modification and redesign of training courses reflecting EASA regulations is also in process. There are 2 possible EASA policies in training:

- The centralized model
- The decentralized model based on franchise and/or license agreement awarded to selected training centers in Europe.

As an established centre, the Brno training centre is going to continue the development of close cooperation with EASA as well as JAA on delivery of aviation regulations courses. Within three years of its existence, the training system titled ECADS (European Civil Aviation Administration Scheme) has become a real trademark.

6. References

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