

OPERATION OF FLIGHT DISPATCHING OF SMALL AIRLINE COMPANY

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The article is describing the operation of air traffic dispatcher for a small airline company in the period of pre-flight preparations with emphasis on planning. It covers the possibilities and the ways of monitoring the course of flight formulating the suggestions to improve the operation of air traffic dispatcher.

K e y w o r d s: flight dispatching, air traffic dispatcher, flight planning, flight monitoring

1 INTRODUCTION

Each area of human activity has its known and less known sides. It holds also for air traffic, wherein the job of the air traffic dispatcher at an airline company is relatively less known and sometimes interchanged with that of the air traffic control.

In the article, a small airline company is understood as the one performing charter flights for VIP, operating bizjets, at the international market of air transportation. Such a company can transport passengers practically from arbitrary places to arbitrary destinations within the practical range of their aircraft.

The job of the dispatcher (in English dispatcher – sender) is the person in control of the center for operation.

Dispatching is the tool of operational control in any industry, energetics, transportation and other branches of the national economy. The operation center is the place where information on the status of the controlled object are concentrated, continuously processed and evaluated by means of suitable tools for the purpose of further control.

The notion of air traffic dispatcher is often interchanged with air traffic controller. However, its job cannot be made equivalent neither to airport dispatching, which operates in close connection with the airport fulfilling tasks related to the operation of the airport. In fact, the air traffic dispatcher of an airline is a person responsible for the operation of the airline company in terms of flight planning and monitoring.

The position of the flight dispatcher at a small airline company is also different from that of a big airline company, as it is not part of the flight route, but constitutes a separate organizational unit. Such a position is justified by the need of flexible operation when meeting highly variable requirements of customers related to air traffic.

2 OPERATION OF THE AIR TRAFFIC DISPATCHER AT PREFLIGHT PREPARATION

The structure of the air traffic dispatcher office involves the head, its deputy and the air traffic dispatchers as well. Their number depends on the volume of tasks to be fulfilled, i.e. number of flights to be planned, operated and evaluated. If it is to provide services round the clock, 24 hours a day, a thing that might be considered

obvious, it must be operated in a two-shift system (2x12 hours) at least, whereas the number of dispatchers and the tasks of the day and night shifts can be differentiated. The possible scheme of operation may be as follows:

- head of the dispatcher office (deputy) 8 hours shift on working days,
- daily 12 hours shifts of 2 dispatchers (operational + planning),
- night 12 hours shift 1 dispatcher.

When preparing for flight, the dispatcher office is to perform lots of activities focused on reliable operation of flights. Apart from planning, it involves a wide variety of organizational matters, which are performed independently or in cooperation with other components of the airline company.

The air traffic dispatcher office is in direct communication with handling companies at the destinations, civil aviation authorities, companies of fuel supply and catering, etc. regarding tasks that ensure flight operations in compliance with all norms and standards. Based on the information from the technical department, it provides a continuous and topical survey of movements and airworthinesses of all the aircraft. A status, which is being confronted with the planned activities in order to take immediate measures to ensure coordination necessary for the business segment or flight leg.

It is here, where computation are made to be then offered for other components of the airline in terms of flight ranges, route analyses, airports and all types of aircraft and flight crew as well. It also participates in the evaluation of the usability of airports and airline routes.

The center is directly responsible for keeping the planned flights in compliance with the applicable standards of air traffic, so as to avoid surpassing any of the aircraft limits and any other norms related to the services and resting times of the aircrew. (It has nothing to do with the fact that the compliance with the norms is the responsibility of the aircrew, as it.)

The air traffic dispatcher office is ensuring a continuous flow of information within the airline company with the aim to provide for the planned operation while maintaining compliance with the rules of maximum safety and economy as well. It must take due care of the messages, such as METAR, TAF, NOTAM, SIGMET, and SNOWTAM already in the preparatory phase for flight and in the course of it as well.

This is the place where the plan is developed, submitted along with the flight documentation; ensuring the preparation of the „flight bag” so as to have all the documents in it brought up to date. It also involves monitoring the flight plan and, if necessary, doing the operative changes in it. Should it conclude that the plan cannot be fulfilled; the office is sending reports to the business department, then the aircrew suggesting new measures. All the necessary information and documentation for the flight must be delivered to the aircrew in time and proper manner.

2.1 Flight planning

The object of flight planning is obtaining the most topical information on the preparatory and actual phases of flight with the aim to ensure optimisation of the entire air traffic operation.

Optimisation in case of air traffic is understood as fine-tuning of the requirements of the operators with their capacity potentials. The requirements are mandatory, except for the common sense for flight safety, with the main criterion for efficiency (minimal costs of operation, maximal, load factor of aircraft, economic outputs), which in practice is about determining the preferences of certain airports, times of departure and arrival, certain routes and flight levels. At the current density of the air traffic, efficient planning of flights makes it necessary to utilize automated systems, which substantially expedite and simplify the entire process, while eliminating the occurrence of formal errors (e.g. the PPS- pre-flight planning system, FliteStar etc.).

The basic condition of flight planning is the existence of a flight plan – approved by the operator and the subject responsible for its primary development. For the countries within the European Conference for Civil Aviation (ECAC), involving the Slovak republic, it is the IFPS – Integrated Initial Flight Plan Processing System. Then it must be approved by the air navigation services. The IFPS is a centralized system of flight planning for a given area of responsibility for the Central Flow Management Unit with the aimed to ensure rationalization of accepting flight plans (also right to correction/denial) and also messages related to flights of IFR-GAT (General Air Traffic), automatic distribution of the processed messages for the air navigation service providers within the area of IFPS, thus providing the given flights (or other addresses) all the services and finally submitting the developed flight plan into the system.

3 OPERATION OF THE AIR TRAFFIC DISPATCHER OFFICE DURING FLIGHT

In this phase of flight, the office is to ensure control of the air traffic for the given airline in coordination with all the participants that ensure flight safety. It also keeps records of the actual movements of

the aircraft in terms of the operational requirements and technical capabilities of the airline company. In cooperation with the business and technical departments, solutions are offered to all the situations resulting from irregularities of the operation. A dispatcher must be capable of assessing the variations and limitations of the operations, and is responsible for ensuring that all the stakeholders (business department, handling partners, airport services, aircrew etc.) are informed in no time on all the changes relevant to them as well as the requirements set for them.

The dispatcher office is continuously and consistently monitoring the operation of the aircrew, compliance with the air norms and the times for rests. It keeps constant records of all the events that have taken place during their service, as well as the information for the head of the dispatcher office, and the shift that will follow them, of course.

3.1 Monitoring of flight

The operation of the dispatcher, from take off till landing is termed, though with simplification, as flight monitoring. It is nonetheless because of the wider aspect involving more than pure monitoring of flight, and also because of the possibility of following flights of a small airline company without radar surveillance, i.e. with none or much limited contact with the aircraft. In general, the air traffic dispatcher must ensure monitoring of the course of each flight assigned to his control until it lands or is taken over by another area control, or by its subsequent colleague in shift. Monitoring must involve:

- Time remaining of the flight,
- Destination or Alternate airports,
- Meteorological conditions,
- Airport and navigation services status.

As by par. 4.6.1, Chapter 4, Annex 6 published by ICAO, the flight dispatcher is liable to provide the pilot in flight all the information necessary for safe performance of flight. It requires timely and two-way communication between the aircrew and the air traffic dispatcher at any point of flight. To ensure communication, however, other suitable means of communication can be used, e.g. . ACARS, SATCOM, mobile phones, message transfer from the air navigation services.

Thus, communication can theoretically involve:

- Radio communication within the VHF band,
- Radio communication within the HF band,
- Fixed telecommunication network, the AFTN,
- Communication via the ACARS,
- Telephone-based communication,
- Mobile phones.

These possibilities can be currently added also by the use of satellite telephones, in via the SATCOM.

4 POSSIBILITIES OF IMPROVING THE QUALITY OF AIR TRAFFIC DISPATCHER JOB AT A SMALL AIRLINE COMPANY

Methodically, the issue can be approached from two aspects:

A. Possibility of improving the quality of air traffic dispatcher at a concrete airline company, whereas, partial solutions in this field can be in the following areas:

1. Improving the selection of applicants for the function of the air traffic dispatchers. Requirements are established only in general terms, which at companies with less experience are leading to find the optimum procedure for selecting the recruits. A unified set of requirements set for the applicants could not only help at the selections, but also improve job mobility in the future as well. As a matter of course, the requirements should be observed consistently when selections are made.

2. Improving the theoretical and practical preparation of the applicants – focus on this area is in compliance with the ideas in [13], which require:

- need to establish minimum standards of professional preparation,
- introduction of the unified training centers and schools (or unified procedures of training at least – authors' comment)
- assess the minimum level of training, as it is defined in the manual published by ICAO Doc. 7163 D3,
- to pursue harmonization between FAA and European institutions.

3. Improving the level of technical equipment for air traffic dispatchers and aircraft in several fields. On the one hand, it might involve gradual upgrade of the software, introduction of the tools of satellite communication (SATCOM) to ensure link throughout the entire flight and also modes of continuous monitoring of flight. As air navigation services have available data on courses of flights, theoretically, one can think about the establishment of a data basis for these information (for example at national level, or at the level of CFMU) and their accessibility to authorized parties. Technically, such problem can be, no doubt, solved and there remains the need to have it solved from financial points of view, at first..

B. Systems-based changes in the preparation and operation of air traffic dispatchers, approached (obviously) in the European scale (Eurocontrol or EASA). Inspiration can come from the system of air traffic dispatcher already adopted in the USA.

Regulations of the FAR assign air traffic dispatchers a high level of responsibility interlinked with that of the pilot in command of an aircraft. Such system of air operation control is known as the one of „common or shared responsibility“. In it, the dispatcher is the real centre-point of operations, acting as a „hub“ of information received from the aircraft and sent to the aircraft, air navigation services and meteorological

stations and the separated departments of airline companies linked to the air traffic control system.

Another characteristic of the American system consists in the requirement for active monitoring of the course of every flight. To fulfil it, the majority of American operators are equipped with systems of automatic flight monitoring, which present the exact and actual position of each aircraft along with the information on meteorological conditions and further facts of interest. Dispatchers are entitled to make operational decisions while the aircraft is flying along the route and furnish it with information regarding flight safety, e.g. turbulence or icing expected.

The future will probably bring more strictness into the requirements established for air traffic dispatcher also in Europe and will lead to similar way of strengthening the positions of dispatcher as it is already adopted in the USA.

5 CONCLUSION

To be more efficient, the operation of the dispatcher centre will be in need of the necessary organizational, personal, legislative and material conditions. It has, however, to be assigned with exactly defined tasks and authorities. An air traffic dispatcher centre must be well furnished first of all with information and communication technology, which are the prerequisites of efficient fulfilment of its tasks. Most of all, it needs competent, theoretically and practically well prepared dispatchers, who are capable of working both on a conceptual level while being flexible in reacting to changes in the situation and also competent in using their and their colleagues' knowledge, taking responsibility for their decisions, working under stress and high psychological pressure.

Systems-based potentials in improved quality and efficiency of the air traffic dispatcher office are at hand mainly in monitoring of flights, where improved technical equipment would widen the competence of more active influencing the courses of flights. One can also assume gradual extension of the tasks and authorities of the air traffic dispatcher office and strengthening its position and control functions within the airline company.

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