

CRISIS MANAGEMENT AT AIRPORTS

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Summary. The thesis deals with crisis management at airports, solving the emergency situations and exercises, which are focused on verifying of preparedness and qualification of airport, airport personnel and rescue components to handle extraordinary events at airports. Theoretical part defines basic terms from the crisis management field and describes and processes information concerned with legislation and airport internal documents for solving of emergency situations in general. The thesis is focused on importance and aims of periodical exercises of cooperation of rescue services at airport, analysis of already realized exercises in the past and especially on vetting exercise of rescue services during the pretended aircraft accident in 13th May 2015 at Žilina Hričov airport, from which it processes comprehensive output as a base for assessment and recommendations for getting the activity of airport personnel and rescue services more effective during the solving of emergency situations and events affecting mass of people..

Keywords: Airport, exercise, emergency situation, integrated rescue system, cooperation, events affecting mass of people, safety management system, emergency response plan.

1. INTRODUCTION

Nowadays is crisis management full-blown part of many organizations and companies. It has many definitions and meanings and this theme has a huge extent. The crisis management can be comprehend as a complex of activities, which are directly concerned with solving of some situations and eliminating of its consequences, which caused threat of human health and their lives, damages of material or any kind of system disruptions and its integrity. On the other side it can be comprehend as a continual process of goal-directed activity, which has a purpose to predict the occurrence and course of crisis situations, proactively prevent them and last but not least solve their consequences and impact on society. This second meaning represents the base for the research of this thesis. One of the ways how the hazard and risks can be managed at the airports and how there can be qualification and preparedness of all subjects increasing is verifying of the functionality and usability of the emergency response plans of not only the airports but also other subjects via periodical exercises of emergency situations.

2. LEGISLATIVE BACKGROUND OF SAFETY MANAGEMENT SYSTEM AND PERIODICAL EXERCISES OF EMERGENCY SITUATIONS AT THE AIRPORTS

The system of legislative in aviation is based on the same hierarchy principles as it is in all other fields. The most important law source or regulation is Convention on International Civil Aviation known as Chicago Convention and its Annexes, which contain all recommended practices and standards concerned with operation of civil aviation. Slovak Republic is full-blown part of the ICAO organization and therefore creating and publishing of the regulations in Slovak conditions has to be subordinate to these documents. The most important sources for law regulation concerned with airport safety management system and emergency planning are:

- ICAO Annex 14 – Airports
- ICAO Doc 9137 – Airport Services Manual
- ICAO Doc 9859 – Safety Management Manual

- Regulation (EC) No 216/2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency
- Commission Regulation (EU) No 139/2014 laying down requirements and administrative procedures related to aerodromes pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council
- Regulation L14
- State Safety Programme of the Slovak Republic
- Airport Emergency Response Plan

3. ANALYSIS OF CHOSEN VETTING EXERCISES OF EMERGENCY SITUATIONS AT AIRPORTS IN SLOVAK REPUBLIC

The legislative is laying down the obligation to organize comprehensive vetting exercises of unusual occurrences each 2 years to verify the functionality of the Airport Emergency Plan. To find the weak points of these exercises and to get the general view of them was necessary to analyse organization, course and results of some chosen already realized exercises of this emergency situations. The representative sample for this analysis represent 3 Slovak airports: Bratislava, Sliač and Košice.

4. DETAILED ANALYSIS OF EXERCISE REALIZED 13TH MAY 2015 IN ŽILINA – HRIČOV AIRPORT

The base or principles for this detailed analysis represented the phase diagram below:

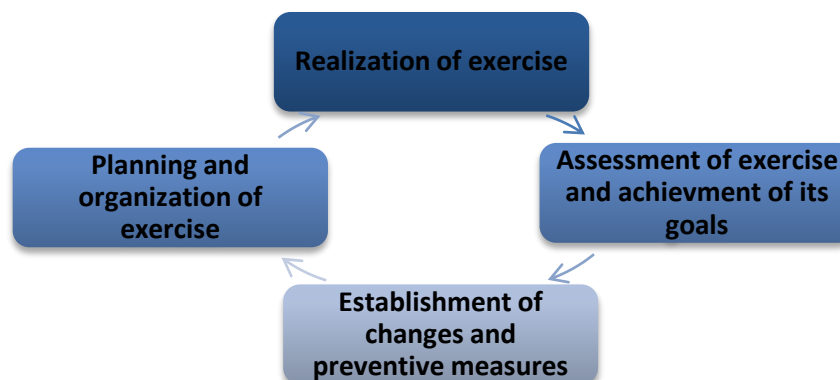


Figure 1 Cycle of airport emergency exercises

Planning of the exercise

Together 4 meetings took place to organize the exercise within the Žilina Airport.

- 27.03.2015 – establishment of the date of realization, scenario proposal and its approval, designating of some tasks and responsibilities between the members of organizational team and establishment of basic goals, which have to be achieved within this exercise
- 06.04.2015 – continuous check of documentation preparing and tasks dedicated to members of organizational team
- 10.04.2015 – meeting of members of airport organizational team and deputies of rescue services and other subjects, consultation, changes in the scenario and so on
- 01.05.2015 – final meeting of all participating subjects, checking of fulfilment of all tasks and last organizational instructions

Realization of exercise

13th May 2015 at 8:00 a.m. 10 members of Slovak Red Cross, ca. 50 acting participants and airport personnel came to the airport to prepare model simulation of airplane crash, disguise the acting participants and to brief them. At 10:00 a.m. all other subjects and rescue services met at the terminal building. Opening briefing of all subjects preceded the launching of the action, where were discussed all necessary information and last instructions. The briefing took about 15 minutes and deputies of all subjects made a short speech. The course of the exercise was as following:

- 10:27 – setting the model of the plane on fire – initializing of the exercise
- 10:29 – intervention of airport fire and rescue service composed of 6 members
- 10:34 – evacuation of people to safe area
- 10:40 – arrival of first rescue services
- 10:41 – arrival of fire and rescue services and police
- 11:02 – arrival of last fire and rescue services
- 11:25 – arrival of crisis intervention team Modrý anjel
- 12:20 – transportation of the last patient and termination of the exercise

Termination of the exercise as its practical part is not the conclusion of the whole action. The most important part is to assess its course and create some official output comprising all information regarding this event and information which could be useful for further steps to improve the quality and functionality of the airport emergency response plan. Several debriefings came after the practical part within the each subjects, organizations or groups of co-workers separately and then the official one, common for all participants. The aim of these debriefings was to discuss all the issues, impressions and observations right after event to get the freshest information. The official concluding one took about 25 minutes.

Assessment of exercise

Processing all the data and creating the evaluating report is a must to fulfil the given goals and to improve already existing processes. Airport Žilina – Hričov as the organizer of the event arranged one more meeting where deputies of all subjects were invited to discuss the individual evaluation reports and the findings together to find out the way, how to prevent them in future events and how to make future events more effective and more successful.

Establishment of changes and new preventive measures

Based on the overall evaluation is necessary to create and undergo some changes not only on the side of the airport, but all the participating organizations. The environment and conditions of airport operation are very specific and for rescue services not very ordinary and usual. The opportunity to participate and coordinate on this kind of events is useful and beneficial for both sides as all of them can find out, where are the weakest points of coordination and performance of intervention during the events affecting mass of people.

5. ALTERNATIVE MEANS FOR AIRPORT EXERCISES EVALUATION

For exercise evaluation ICAO organization published the sample form available in Appendix 9 of 7th part of Airport Services Manual. The airports have the opportunity to use it as a model for creating their own emergency exercise critique form taking into consideration individual specifics and requirements. To objectively assess the exercise is not easy. Current way and questions which are stated in these critique forms are very difficult to evaluate in that way, that they would provide us relevant data and information for clearly define, where are the weak points and where are the strong points of rescue services and airport personnel intervention. The SMART method for goals establishment is very common way used by managers. Principles of this method are based on these goals attributes: specific, measurable, achievable, realistic and time specific. On these attributes should be based also goals for every emergency situation exercise at the airports. It means that each goal set by organizational team

should be “SMART”. The probably most important attribute could be “measurable”, when all the observed activities during solving of emergency situations at airports should have some numeric goal, for example the time necessary for airport firemen to reach the place of event in consideration of the distance or amount of material and personnel used for intervention in consideration with fire extent or severity of event. Creating of mathematic model for evaluation or setting the evaluation tables could be the most suitable way how to assess these exercises. Observing of this huge amount of attributes and data could be very difficult for evaluation team using a simple paper form. Creating of interactive application for smartphones or tablets for evaluation process could simplify their observations. This application should meet these requirements:

- Time measuring for individual activities separately by simple click on some icon
- Assessment of activities by clicking on scale of numbers, e. g. from 1 to 5
- Recording the voice notes or taking the photo documentation
- Distance measuring using the GPS or marking into the map
- Other

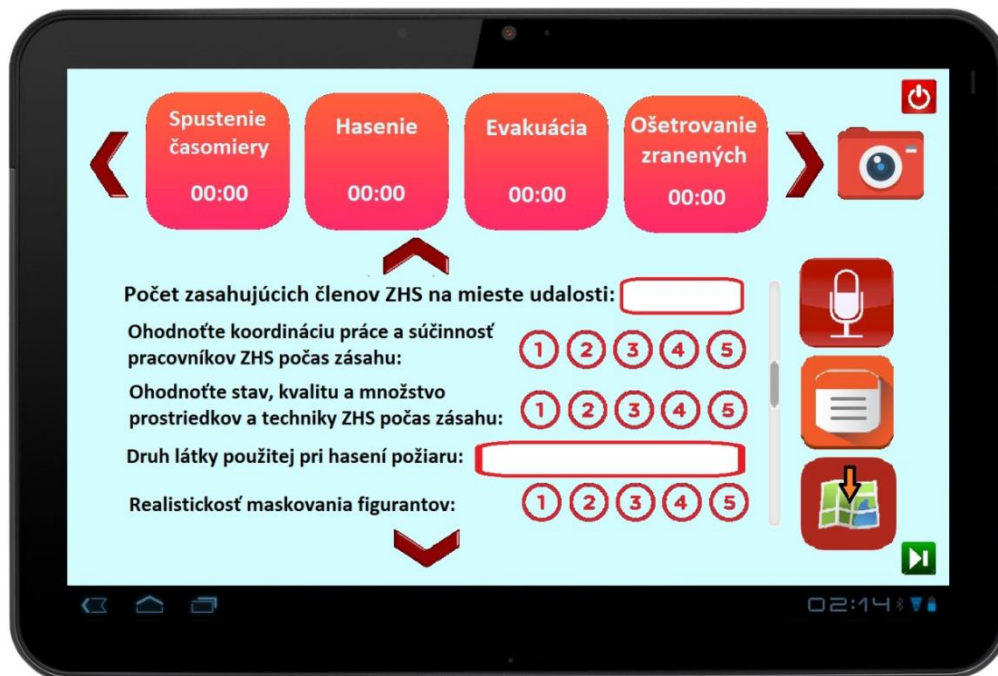


Figure 2 Critique application proposal

Replacing the obsolete paper critique forms by modern and interactive application could be a big step to getting the evaluation process more objective, effective and simpler.

5. CONCLUSION

The analysis of the course of several exercises of emergency situations at airport and their evaluations have proven that the weakest points of solving the events affecting mass of people can be divided into the 3 categories:

- Communication between all participating subjects
- Localization and logistics of “nest of the injured”
- Workload of rescue personnel (paramedics) concerned with record keeping and paperwork of the event

1. Communication

The problem-free and fluent communication is the most important aspect of dealing with emergency situations. The flow of information is substantially restricted due to incompatibility of devices which are used by intervening subjects. The communication partially failed during the almost all cases as the paramedics are using SITNO radio station network, firemen and police force using MATRA radio station network and in some cases within the communication with airport management and operation centre the fixed telecommunication network and mobile phones are used. The radio stations can be set to use the only one frequency, however the huge amount of information which is necessary to pass cause overload of the frequency and then the participants are not able to select relevant information, understand them and to get the turn to speak. The solution of this problem could be teaching the rescue personnel to communicate more structured. It means that they should learn to pass the information very quickly, clearly and directly.

For example:

Incorrectly: "We haven't been inside the wreckage yet, but two of us are already going there. I don't know if there is someone else or not. I will give you a shout, when we will find it out."

Correctly: "Firemen calling, wreckage check in progress, potential further evacuation."

2. Nest of the injured

The most frequently problem concerned with nest of the injured is its improper localization in insufficient distance from danger area. The decision about the distance is in full authority of commander of the intervention and it depends on actual situation and its conditions. Marking of the nest can be done after the arrival of first paramedics as they are the only one, who has the equipment necessary for this act. Marking of nest is the second weak point due to the low visibility of the signs (coloured pyramids for about only 50 cm tall), especially at airports. The size of these signs are established by legislation. The possible solution could be to equip airport fire and rescue services with a more suitable equipment which can be used only for events within the airport area and its conditions.

3. Event paperwork done by rescue services

Duties and responsibilities concerned with record keeping of patients and their transportation is essential part of solving this kind of events. Administration cannot be skipped and therefore it requires a lot of time and energy to accomplish this matter. Current system of rescue services in our region is set "on its limitations". It means that number of operating rescue personnel each day is sufficient for everyday operation but not very well prepared for events affecting mass of people. The only solution for reducing of workload on rescue services is to reinforce the operation with more rescue personnel to be able to provide more labour force for dividing of responsibilities during the solving of emergency situation of this range.

Besides these 3 most significant issues there were founded other findings which had lower impact on overall performance and success:

- Triage markings of the injured
- Activation of crisis intervention team Modrý anjel
- Personal prerequisites of individuals to be a "good commander"
- Communication with bereaved persons waiting in the terminal building
- Other

The analysis proven that all participants, who were participating on some similar exercise before, have been working more effective, quicker and with less mistakes than the others. That is the confirmation that these periodical vetting exercises and education within this field have undoubtedly great contribution for level of operation of all subjects and services.