

CUSTOMIZED EMERGENCY RESPONSE PLAN FOR AVIATION ORGANIZATIONS

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ABSTRACT

As part of new European legislative for aviation stakeholders involved in commercial aviation there is a requirement for Emergency Response Plan. This shall comply with ORO.GEN.200 and AMC1 ORO.GEN.200(a)(1);(2);(3)(5) point (f) (cf. Section 8.7 of the Second ed. of Safety Management Manual) and shall ensure that organization is prepared to respond to crisis without reducing operations' level of safety and optimal use of resources. The task is to customize the scope of Emergency Response Plan in accordance to the nature and extend of operations of the organization. In this text we discuss customization for approved training organizations, small commercial aviation and maintenance providers.

Key words:

Emergency response plan for aviation organization, Crisis scenarios creation

ABSTRAKT

V souvislosti se zavedením nové evropské legislativy pro civilní obchodní leteckou dopravu vyvstává požadavek na pohotovostní plán. Ten musí být zpracován v souladu s nařízením ORO.GEN.200 a AMC1 ORO.GEN.200 (a) (1), (2), (3) (5) bod (f) (viz oddíl 8.7 z Safety Management Manual, druhá edice) a musí zajistit, že organizace je připravena reagovat na nenadálou situaci, aniž by byla snížena úroveň provozní bezpečnosti a že zdroje k řešení takové situace jsou optimálně využity. Hlavním úkolem je přizpůsobit pohotovostní plán povaze a rozsahu provozních operací. V tomto textu budeme diskutovat přizpůsobení pohotovostního plánu pro organizace provádějící letecký výcvik a male organizace poskytující obchodní přepravu a údržbu.

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Klíčová slova:

Pohotovostní plán pro letecké organizace, Tvorba krizových scénářů

1 INTRODUCTION

Traditional Emergency Response Plan (ERP) of aviation providers was mainly focused on security threats because it is required by authorities that way. There were several scenarios required, for instance, coping with unattended baggage, explosive, hijack etc. Since new European legislative is in place, operators shall use integrated management system described in ORO.GEN.200 and AMC1 ORO.GEN.200(a)(1);(2);(3)(5) point (f) [1] (also in Safety Management Manual) [2] and regard to ERP, organization shall provide personnel with sufficient resources and scenarios to comply with any emergency situation not only security threats but also safety risks. The task is to create Emergency Response Plan in way that helps with managing any situation with a potential of decreasing safety or security level of operations. It is not possible to cover every possible aspect of scenario; however, general rules with specific what-to-do manual should be discussed in ERP. Coordination with other stakeholders shall be ensured, personnel need to know their responsibilities which cannot be in conflict with others. Those facts should be inspected by drills, audits and other suitable means.

Security threats are included in Security Program of each organization providing commercial services and it is validated by state authority according to National Security Program; ERP is required, however, safety issues are not emphasized there. In this text we focus ERP on safety risks and their impact on overall safety since this theme is not included in national Program and still required.

2 GENERAL ADVICE ON ERP CREATION

EASA itself confirms previously stated hypothesis. There is a European initiative helping aviation companies with ERP documentation requirements. European Helicopter Safety (EHST) provides some general hints on ERP creation, including only safety issues. The template [3] gives useful general advices. Still, the need of customization exists and is important. The general advices are discussed in this chapter, specified hints and scenario is concluded in the following one.

Firstly, discussion might arise on ERP triggering topic, in other words, what situations should trigger the emergency management. We recommend triggering crisis management in case of any immediate non-standard cooperation among organization units or with external stakeholders. Those situations include the need for communication, cooperation and management that should be highly effective and the room for improvisation would not be unnecessary large. Preferably, the responsible person or safety manager should assess related risks and evaluate event with risk rating and alarm relevant personnel about his decision and following actions.

Secondly, the method used for ERP scenarios should cover whole situation systematically and is well described by Comprehensive Emergency Management (CEM). The model is concluded of four parts, often mingled, providing effective assistance with describing individual actions and mitigation factors in each stage of emergency. Mitigation consists of actions that can prevent, alleviate, or diminish the potential effects of a disaster situation, for instance budget allocations. Preparedness phase focuses on enhancing the response capabilities; that includes emergency plans, training, drills etc. In response phase involves time-sensitive actions to save lives and property, prevent further damage. Last part, recovery, sums actions to restore and resume normal operations and future adjustments of emergency management.[4]

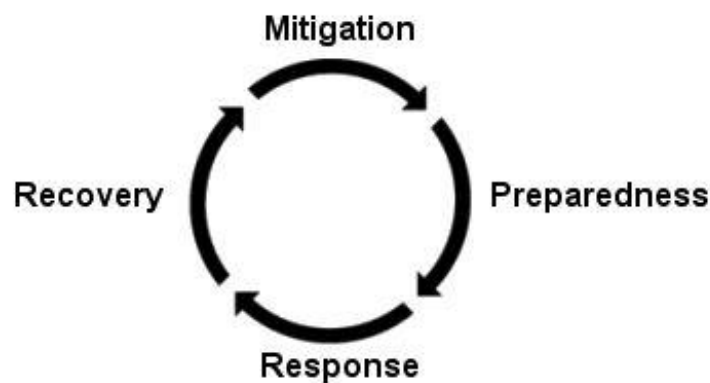


Figure 1 A model of the emergency management cycle [5]

SINTEF's research [6] in risk management presents a resilient engineering based perspective which is applicable on emergency planning, too. The main idea is the monitoring of sources available for emergency situations, its quick accessibility and other characteristics crucial for those situations as a part of the organization's risk management; therefore, there exists a link between normal operation risks and the nonstandard ones.

2.1 ORGANIZATION

Responsible persons shall know their tasks; training ought to prepare them to manage with crisis situations, even those not included in scenarios. The basic idea is to carry on with operations which are not affected and bring the other ones into normal operational mode as soon as practicable without any safety risks.

Responsibilities should be personal as any discussion prevents rapid and effective process through four steps leading to recovery. This includes also substitutions in case of absence. Clear organizational scheme with assigned responsibility level is great help for fast orientation in case of emergency situation. Company could benefit from personnel as safety managers, security manager, customer services representative, flight operations manager, logistics and equipment manager, secretaries and other assistant coordinators. Personnel' tasks should also reflect their abilities.

2.2 DOCUMENTATION

Documenting the actions taken is absolutely imperative. One reason for that is the emergency situation command transfer to higher posts during the managing process itself. The other reason is the feedback and future adjustment of scenarios, included also in Recovery phase of CEM. Therefore, ERP shall supply crisis managers with appropriate documents, templates and logs with straight structure and notes explaining the context and reasons.

2.3 COMMUNICATION

Organization shall provide relevant information about any nonstandard situation to employees and, in some cases, to public. Clear communication pattern should prevent situations in which one unit receives alert but does not distribute it to further relevant posts or distribute misleading facts resulting in far from optimal use of sources or even use of improper situation plan.

Employees need information concerning their jobs and clear instructions not to give any official nor unofficial statements out of company.

Companies may also challenge the interest of media. ERP should include general initial and consecutive draft of media statements in order to give proper information in the right form.

3 SPECIFIC APPROACH TO ERP CREATION

Specific approach is essential to reflect actual kinds of operations and keeps the ERP brief and easy to navigate for crisis managers.

The character and scope of situations which the company is able to deal with and the all sorts of situations where the outside help is needed shall be precisely defined in the manual. Appropriate communication patterns shall be described and drilled. Examples of situations covered by scenarios for small organizations and ATOs could be following:

- Fires – hangar, office, aircraft, others. The extinguishing equipment capabilities should be defined. In all cases, firefighter service agreement should be arranged.
- Floods, snow, natural disasters – airport and surrounding areas. Company could locate temporarily the aircraft and other necessary equipment to other hangar, facility or airport and continue with operations providing minor financial losses.
- Aviation accidents, serious incidents – assure medical assistance, technical support, search and rescue services.
- Loss of working resource – office, hangar, aircraft. Secure that no other resource is in similar danger. Those events could affect operations long-term. Risk assessment study should be made and decided if the scope of

operations does not to be adapted or restricted in order to maintain the satisfactory level of safety.

- Loss of energy – electricity, gas. The electricity loss during nighttime has more serious effect than during daytime and often implies also loss of communication means, which is described below. Energy loss makes operations and its support more complicated and
- Loss of communication means – internet, telephones. Up to date information is essential for performing a safe flight. Partial loss could be compensated by other means while complete loss is crucial and could affect flight safety.
- Others – training organizations deal with beginning pilots may have specific scenarios of all kind of situations which could arise during training. Also consideration of what is emergency and what is not could be different.

3.1 COORDINATION WITH STATE SERVICES

As stated above, organization is probably able to deal with some situations itself. For other cases there shall be defined clear plans. Firefighters, medical assistance as well as police or search and rescue are public services which would help in case of extensive emergency. Agreements of coordination shall be signed with all of services intended to cooperate with in emergency and supported by performing regular drills. No real action is needed during drills, the situation could be just discussed by telephone or internet and each department could communicate what would it do in case of (subject of drill).

3.2 SPECIFIC CASE FOR APPROVED TRAINING ORGANIZATION

Let us try to create an example scenario with preventive, actual and post actions that could be taken leading to recovery of normal operations. In our example, we assume a student pilot on a solo flight. He should be back 30 minutes ago and still he did not appear. The aircraft is not equipped with real time monitoring system and we have just approximate notion where he can be located according to his navigation log. This is clearly a non-standard situation and should trigger an ERP action.

Actions of this possible scenario according to CEM are recapped in the table below. Listed are just actions for the possibility when student performs precautionary landing into the field and does not call his instructor:

Table 1 Example of emergency management: Student pilot is delayed on return from solo flight

PHASE	DESCRIPTION	EXAMPLES
Mitigation	Actions that can prevent, alleviate, or diminish the potential effects of a disaster situation	Good preflight preparation, enough fuel (also as mental assurance for student pilot), cell phone and number to flight instructor, ELT on board.
Preparedness	Actions that enhance emergency response capabilities	Training drills – Precautionary landings, Lost of orientation and proper communication with ATC. Record in navigation logbook before conducting the flight. Scenarios for those cases.
Response	Time-sensitive actions to save lives and property, reduce the possibility of secondary damage, and speed recovery operations	Communication – by phone with FIR ATC unit to determine the aircraft position or possible transmission from student. The same call to towers and AFIS on en-route airports. Cooperation – in the house. Aircraft not used at the time could go and search the site. SAR service cooperation.
Recovery	Actions that restore the airport/community to pre-emergency conditions	Return of the aircraft – by air: designated person checks the field and characteristics of aircraft for possible departure; experienced pilot execute flight. By land: Transportation of the aircraft is communicated and executed. Inspections are arranged in both cases.

As was discussed above, there is a resilient-based approach which could further elaborate the scenario and response. Mainly, by means of risk mitigation and management, organization would monitor the state of sources used and actual communicating channels within the organization as well as external.

4 CONCLUSION

According to new EASA legislative, an ERP needs any aviation organization providing commercial services. The ERP could be done either to comply with the regulations or more sophisticatedly providing quick return to normal operation mode with minimum harm. The basic idea is to create plan which builds on a general template but reflects very specifics of an operator or organization. Comprehensive Emergency Management offers the model easy to follow during company workshops and represent a great tool that covers all stages of non-standard situations.

Recovery phase is very important in the whole process and should be emphasized in the plan since it could be beneficial twice. The fastest practicable return to normal operation is vital but also any feedback resulting in plan modification is

important. The resilient-based approach would be preferably used for monitoring overall risk and response capacity within organization by using established means of safety management system.

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Článok recenzovali dvaja nezávislí recenzenti.

