Safety Management for non-commercial Approved Training Organizations (ATO) which operate non complex Aircraft

presented by FOCA (Switzerland) to the

"GA roadmap NAA group" at the 2014 EASA Safety Conference:

"Towards simpler, lighter, better rules for General Aviation",

Rome, Italy, 15/16th October 2014.

Hofer, P., BAZL (FOCA), Bern, Switzerland,

Pecoraio, I., BAZL (FOCA), Bern, Switzerland,

Ultsch, A., Univ. Marburg, Germany, ultsch@ulweb.de

The Swiss Aviation Authority (FOCA) agrees that EASA regulations for ATOs (Sec-tion NCO) are currently disproportional and excessive. FOCA proposes to drop the paperwork-based approach in particular concerning the "classical" Safety Management System (SMS) for NCOs respectively to ATOs (Section 1) as it is largely ineffective and presents a bureaucratic and costly burden for this type of aviation. FOCA proposes to modify the training and competence assessments for users in NCO-aviation from TEM/CRM to Modern Safety Management as defined by ICAO, adapted specifically to NCO-aviation's needs and abilities. FOCA proposes to EASA the requirement for ATOs (Section 1) to participate in appropriate organization-wide training measures. These should be specially tailored for ATOs (Section 1) and/or NCOs on the basis of existing, proven and tested non-commercial training courses in this field.

Preface:

The sector of aviation that is addressed in this paper is also referred to as "Sport Avi-ation", "Light Aviation", "non-commercial General Aviation" or "NCC-NCO-ATO" [EASAGenOps 2014] etc. The identification of this part of the General Aviation activi-ty (as opposed to commercial transport aviation) and a more precise definition of ATO (Section 1) may be given further consideration by the rulemaking authorities. It should be recognized that organizational structures ("operators") in this sector of NCO-aviation are typically non-professional, having no full time workforce and are non-profit. A typical example of such an ATO (Section 1) activity is the training of glider pilots within a gliding club or the training of private pilots in a flight school within a flying club. This NCO-aviation is the "other end of aviation" as opposed to the Commercial Air Transport (CAT) sector of aviation and consequently Safety Management practices should be appropriate to the nature of the operations.

Proposal:

FOCA welcomes the latest developments in EASA's rulemaking policies to acknowledge that the present concept of regulations for ATOs (Section 1) is disproportional and excessive [Kneepkens 2014].

A fundamental and often overseen prerequisite of the application of proactive and predictive (i.e. dynamic) safety management methods is, that they must be implemented by a mature safety organization. The main principle of the dynamic approaches is the continuous analysis of the everyday aviation operations (data driven process). The purpose of this monitoring is the identification of potential hazards in order to assess and mitigate the associated risks before they result in an accident or incident. The organization must draw valid conclusions from the observed events and eventually change the "culture" of the organization. This means these approaches require 1) a certain level of literacy in safety management for all personal involved, 2) specific requirements on the leadership of the organizations and 3) commitment and sustainability in the efforts with respect to such safety approaches. This poses several principal problems for the NCO organisations that are regarded here.

ATOs (Section 1) as part of non-complex and nonprofit organizations, such as flying clubs, are not companies. Students, pilots, CFIs and club officers usually practice their aviation activity on a voluntary basis as a sports and/or leisure activity. There is often no "Accountable Manager", who has the means and power and is "ultimately accountable for safety in the organisation" [EHEST 2013, 5.1]. There is no "continuous monitoring process on all activities of the company" [EHEST 2013, 5.5]. Usually these NCO activities take place on weekends, vacations and other leisure times. The personal involved in these activities change frequently from one period of activity to the other.

Internal safety investigations on low impact events, i.e. incidents below the scope of occurrences, required to be reported to authorities, are usually not yet performed consequently in these NCOs. Confidential incident reporting systems are rarely used even if they are implemented and propagated. One of numerous examples for this: the Gliding Federation of Australia had implemented a continent wide internet based confidential event reporting system. In a recent year this system reported less than 10 events for all the Australian gliding activities.

Usually the leaders of NCOs, such as CFIs and club officers, are not subjected to any formal training neither in leadership nor in modern approaches to safety. An exemplary interrogation on officers responsible for the safety for international gliding contests showed, that less than 5% of these officers were able to assess important aspects of safety cultures. Less than 1% of these officers considered themselves to be capable to change a safety culture of an organization. The latter were pilots holding an ATPL license with intensive CRM and leadership training during their work for the Commercial Air Transport companies or military organizations. The same applies to flying clubs, i.e. all three prerequisites for dynamic safety managements, as stated above, can be hardly fulfilled in present day ATOs in the NCO sector.

This suggests that the implementation of SMS for NCO-aviation (e.g. glider clubs) implemented as a "pile-of-paperwork" will not save any lives. It is often perceived as a bureaucratic and costly burden for these aviation activities. The requirement of a "Safety Management Manual" which "is the key instrument for communicating the Company's approach to safety to all its personnel" [EHEST 2013, 3] will not be an effective method to improve safety in NCO-aviation. It can be argued that the effort and resources that such organisations put into trying to accommodate the

regulatory requirements could be much more effectively invested in activities directly related to the management of operational risks in the daily activities.

There is an approach that has been shown in practice to be effective in reducing the operational risks in NCO-aviation. The key method of this approach is a special form of training in safety management: not the individual pilot or instructor or officer is trained, but the whole organization is educated. Such training courses for non-commercial and non-complex organizations, such as aviation clubs, have been developed by several countries, such as Sweden (Stop-crashing /FLY-SAFE) [Svensson 2011] and FLYTOP in Switzerland and Germany [FLYTOP 2011]. The introduction of such training measures has reduced the fatality rate in Sweden by a factor of 50 in the period from 1982 to 2011 [Svensson 2011].

FOCA proposes that the adaptation of EASA's rules for SMS for ATOs (Section 1) aims at reducing the operational risks by requiring training measures for organizations in dynamic safety measures. It is not intended that these training measures are costly or impose a heavy burden on NCOs. The training systems mentioned above have been developed on a non-commercial basis and are implemented by specially trained (non-professional) flight instructors of NCO-aviation. If EASA, together with recognized practitioners in this field, were to develop a generic syllabus for implementation at the national level, the entire activity would no doubt be highly cost-effective, and provide more "bang for the buck" than pseudo compliance with SMS requirements by the NCO-aviation sector

For the trainings performed in Sweden, Germany and Switzerland it turned out that an NCO needs an initial two days (i.e. one weekend) fundamental training course in dynamic safety. As follow up, a one day refreshing course in a 3-4 years rhythm has been shown to be effective in practice. It is an essential requirement for these trainings that at least 80% of the members of the NCO (club) and at least 95% of the leaders of the organization must participate. This requirement is important in order to train the organization "as a whole". It ensures commitment and sustainability in these organizations with no formal "workflows" or "chain of commands". In Sweden it was also found to be effective, that the CFIs and the formal leaders of the organization (cub officers) are trained in a one day course before the fundamental training course is given to the whole club.

FOCA suggests furthermore to modify the training and competence assessments for flight instructors from Threat and Error Management (TEM) and crew resource management (CRM) to Modern Safety Management as defined by ICAO ([Annex 19] and [ICAO SMS 2009]). The syllabus and content of this training must be adopted to the needs of NCO-aviation. FOCA proposes to use experts from NCO-aviation for this adaptation process.

Conclusion

Improved management of the operational risks in NCO-aviation is necessary. EASA can contribute important milestones towards this goal, if the rules and regulations are specifically adapted to the needs and capabilities of this type of aviation. A well-intentioned “paperwork-based approach” (classical data driven SMS) will not be ef-fective for accident prevention in this sector of aviation. There is experience based evidence that there are alternately effective means of risk reduction in NCO-aviation. Specifically, the targeted application of continued education programs, not just for the single pilot, but tailored to the organizations as a whole, is such an alternative. Numerous States (Sweden, Germany, Switzerland) have demonstrated the effective-ness of such programs on a national basis. FOCA suggests that EASA include the development of such a program to be applied to NCO aviation, on a pan-European basis. This action, as well as the implementation at the national level, should be in-cluded in the next iteration of the European Aviation Safety Plan (EASp).

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