



DIRECTORS GENERAL OF CIVIL AVIATION CONFERENCE ON A GLOBAL STRATEGY FOR AVIATION SAFETY

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Theme 1: The Status of aviation safety today

Topic 1.3: Initiatives by States and industry

AVIATION SAFETY IN NEPAL

(Presented by Nepal)

SUMMARY

Concerted efforts are being made to strengthen safety oversight activities in Nepal. In order to ensure effective safety oversight, a change in approach and strategy with a greater focus on safe company culture and safety management system (SMS) is essential. The introduction of suitable aircraft, safety related equipment, strategy and practices need to be tailored considering the unique requirements of the developing countries like Nepal.

1. INTRODUCTION

1.1 The safe and secure civil aviation is a key factor in promoting the development of air transportation. The Nepal Civil Aviation Authority (CAA) is the sole aviation safety regulator and service provider for aerodrome and air navigation services. It has multifarious obligation involving construction of airport infrastructure, installation of equipments and facilities, operation, maintenance and management of airports. A liberal sky policy was adopted in 1992 to provide a healthy and competitive environment for the development of airline industry. As of today, of the forty-one air operator certificates (AOC) issued so far, there are sixteen airlines providing air service. The growth trend in the number of heterogeneous aircraft consisting of eighteen different types ranging from STOL to Jet aircraft is a matter of concern to the Nepal CAA as safety and regulatory authority. The CAA of Nepal recognizes its responsibilities to ensure implementation of eight key elements and critical areas of safety oversight system. It fully supports the ICAO's strategic objective relating to global aviation safety. The compliance with ICAO safety Standards is critical to ensure the safety of all peoples of the world. In order to enhance effective safety oversight, overcome the deficiencies and address emerging challenges, partnership and cooperative approach at national, regional and global level particularly among developed and developing

nations is vital. Partnership in government and policy level with political will, with commitment, dedication and devotion of resources of civil aviation administration and airline industry to maintain safety culture with due recognition to safety as a value rather than priority, are very crucial for effective safety oversight. The present Directors General Conference (DGCA) on a global strategy for aviation safety will be a milestone in consolidating safety oversight roles of the States and state-agencies through cooperative mechanism.

2. NEPAL'S STATUS ON USOAP

2.1 As part of the ICAO Global Aviation Safety Plan, the ICAO Universal Safety Oversight Audit Programme (USOAP) Audit for Nepal was conducted in 1999 and a follow-up audit was done in 2002. As compared to 31.67 per cent for the global and 28.26 per cent for the APAC aggregate of the lack of effective implementation of findings, Nepal lags by only 17 per cent in respect to the 1999 audit which fell to 5.68 per cent after the follow-up audit in 2002. The updated status of implementation reveals further progress and the non-implementation percentage has been decreased to less than 2 per cent. Some of the issues like the restructuring of the organization and adequate number of qualified technical personnel as well as the incentive package for their retention still need to be addressed and are being addressed.

3. SAFETY ENHANCEMENT MEASURES

3.1 The Nepal CAA has adopted various measures to enhance the level of safety and is in the process of proactive implementation.

Training

3.2 Controlled flight into terrain (CFIT) continues to be the major cause of air accidents in Nepal. In line with the ICAO requirements on the mandatory installation of predictive terrain hazardous warning system in suitable category aircraft. The CAA of Nepal has mandated the installation of EGPWS on applicable aircraft, The requirements of EGPWS have been specified in FOR. To cope with the CFIT related challenges in flight safety, attention has been paid in training of flight crew in the prevention of CFIT. Regular interaction programs among pilot and ATCs have been organized periodically especially before the beginning of monsoon season.

Inspections

3.3 In the interest of safety, the CAA of Nepal conducts the scheduled as well as unannounced inspection at various airports. Such exercise had proved helpful in promoting safety. The deficiencies observed during the inspections are dealt with seriously so as to avoid reoccurrence.

CVR/FDR read out requirement

3.4 The Nepal CAA is in the process of establishing cockpit voice recorder (CVR) data read out facility within the country. The flight data recorder (FDR) reads out facility will be established after installation of CVR lab. CVR has been installed on all public transport aircraft with MTOW less than 5 700 kg. and authorized to carry more than nine passengers. Installation of at least one automatic emergency locator transmitter (ELT) has been completed. (FAA) technical standard order (TSO) 126 ELT are being installed on the newly imported aircraft or aircraft undergoing overhauled. The CAA of Nepal

had promulgated the new requirement of mandatory periodic reading out of the flight data recorder (FDR) and analysis of CVR in Nepal. This will contribute in the efficient investigation of the accidents and incidents as well as to ensure the integrity of the recorders.

Anonymous reporting

3.5 The anonymous reporting system is being introduced which will make easier to take appropriate action in case of the flight and maintenance crew as well as ramp drivers.

Introduction of breathalyzer

3.6 The CAA of Nepal has recently introduced the scheduled and unannounced breathalyzer examination of the flight and maintenance crews as well as ramp drivers which is believed to contribute to the overall safety.

Flight Data Analysis System

3.7 The national flag carrier of Nepal - RNAC is already in the process of installing the flight data analysis system (FDA) which is expected to be materialized in near future. Similarly, the private air operator operating the jet aircraft is also acquiring the FDA system.

ADAS installation

3.8 Few domestic aircraft are installed with additional systems like aircraft data acquisition system (ADAS) that continuously monitors the aircraft performance data and provides an early warning should there be an unhealthy trend.

airlines regulatory and safety oversight audits

3.9 There is a system of regular safety oversight audit of airlines in the areas of airworthiness and flight operations. These audits encompass all the relevant activities. The follow-up audit ensures that all the noted deficiencies are to be addressed adequately. Apart from this, the audits also ensure the positive implementation of all safety recommendations forwarded by accident/incident investigation committees. This exercise will definitely prevent the reoccurrence of similar accidents in future.

3.10 The audit have been helpful in appreciating the importance of industry standard like crew resource management (CRM), safety management system (SMS) and flight operation quality assurance (FOQA) for proactively improving safety. The inclusion of top-level management in the CRM and SMS trainings that was conducted by cooperative development of operational safety and continuing airworthiness programme (COSCAP) and CAAN have been fruitful in achieving both vertical as well as horizontal dissemination of this important concept. It is to be stressed that CRM must be expanded into company resource management and safety and to be accepted as a value rather than a priority that can change with circumstances.

Dialogue and Interaction

3.11 Dialogue and interaction among civil aviation and industry stakeholders are being undertaken from time to time focussing on safety promotion. As part of partnership initiation to complement safety oversight activities, the Nepal CAA has embraced the entire industry by conducting several safety culture related programmes towards implementing CRM/SMS requirements both at

management and operational levels. The pilot-ATC interaction have been helpful in generating harmony and better understanding and contributing towards safe operational environment.

Accident investigation and prevention

3.12 A data base of the recommendation of accident investigation reports have been created with immediate, short and long-term action plan. A follow-up and monitoring of the implementation is done periodically.

COSCAP-SA, SARAST and NAST

3.13 COSCAP-South Asia, a unique and pioneering regional cooperative project, has been instrumental in providing various trainings, producing guidance material and manual and has also provided invaluable assistance in conducting safety audits. The direct benefit of these trainings include a better appreciation of safety culture in airline Companies. Participation of a large number of civil aviation and industry manpower in these trainings (held locally at nominal cost) has been a major achievement. Continuation of such activities with impact evaluation is desirable. Nepal is a member of search and rescue satellite-aided tracking (SARSAT) and has registered an active participation in all of the activities under COSCAP-SA. The outcomes of the SARAST have been implemented at the best level. Similarly at national level, a national aviation safety team (NAST) dealing with safety related issues has been formed. It is working very closely with COSCAP-SA and reporting the progress of activities at SARAST meetings held periodically.

4. AREAS OF COOPERATION

4.1 There is a growing realization within the CAA of Nepal that short term ad hoc training by experts to aircrew are not sufficient as the expected benefit does not seem to effectively trickle down to the work place. The expert to assist CAAN in ensuring the spirit of CRM gets truly reflected in day to day line operations. Incident and Accident prevention program and continuous quality training to CAA and airlines personnel is very important. Satellite based ELT distress call monitoring centre is important.

4.2 In view of the increasing helicopter operation, some issues have to be addressed properly. The issues of interest and areas of cooperation in the sub-region includes helicopter training and refresher training, helicopter sling operations, pilot proficiency checks, special visual flight rules (VFR) operations and safety oversight.

4.3 In Nepal, major maintenance of aircraft is done abroad, which is comparatively expensive than done domestically. Therefore, investors are required to establish maintenance organization with well equipped hangar and facilitate regular/periodic maintenance as per manufacturer standards and assist civil aviation authority to monitor and supervise the level of standard of maintenance organization and regulate them properly. Similarly, the technical manpower in the field of operation and maintenance is not sufficient due to lack of training schools and simulator facilities in the country. So, the development of training schools with standard facilities is desirable through cooperative venture.

5. **CONCLUSION**

5.1 The Conference is invited to:

- a) note the safety enhancement measures taken by Nepal;
- b) see the possibility of devoting some resources for research and development for specifically addressing the unique requirements in terms of aircraft equipment and instrument suitable for safe STOL operation and CFIT concerns in countries like Nepal;
- c) share information about the existing and proposed organizational structure of CAAs of other States indicating the functional distinction of the responsibilities of aviation safety and regulatory authority and service provider addressing the need of effective implementation of SMS along the lines of ICAO guidelines. Any cooperative mechanism for providing CRM experts, manpower training and implementation of SMS from ICAO and other States to the resource constraints countries like Nepal is sought for; and
- d) note the safety issues relating to helicopter operations and see the possibility of providing assistance in the areas of training and safety oversight.

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