

**54th CONFERENCE OF
DIRECTORS GENERAL OF CIVIL AVIATION
ASIA AND PACIFIC REGIONS**

*Ulaanbaatar, Mongolia
07 — 11 August 2017*

**AGENDA ITEM 3: AVIATION SAFETY AND
AIR NAVIGATION**

RISK BASED APPROACH TO MANAGING SAFETY IN INDIA

(Presented by India)

SUMMARY

- ICAO by adopting Annex 19 to the Convention, consolidated its risk-based Standards and Recommended Practices. Annex 19 to the convention requires the Member states to develop a State Safety Programme (SSP) outlining the regulations and activities implemented by the state to manage aviation safety.
- Annex 19 also requires the states to develop operating regulations on Safety Management Systems (SMS) which is risk based management system, required to be implemented by aviation service providers.
- India has developed State Safety Programme (SSP) and Specific operating regulations for establishment of the SMS among the service provider.
- It is further improving the risk based regulatory approach to ensure safety of Aviation in India.

RISK BASED APPROACH TO MANAGING SAFETY IN INDIA

1. INTRODUCTION

1.1 Implementation of SMS in India was in force since the year 2004 in the area of Aerodromes and Air traffic service provider. The implementation was supported by the specific legislation and the subordinate legislation.

1.2 In the year 2010, Rule 29C was implemented in the Aircraft Rule 1937 for the establishment of the State Safety Programme by the State followed by incorporation of Rule 29D for the introduction of Safety Management System by the service providers as mandated in ICAO Annexes 1, 6, 8, 11, 13 and 14. Rule 29 D of the Aircraft Rule has been amended to incorporate the ICAO SARP as contained in Annex 19, Edition1. The process for compliance with Annex 19, Edition 2 is in progress.

1.3 For implementation of State Safety Programme at the State level and SMS at the service provider level, SSP - India was issued in the year 2010. The SSP-India provides a framework to meet the safety management provisions contained in ICAO Annexes and to progressively improve safety performance across all aviation service providers.

1.4 To provide guidance to the service providers in the implementation of the Safety Management System in a phased manner, subordinate legislation in the form of “Civil Aviation Requirement, Section 1, Series C part I”, and guidance on Gap Analysis Tool & Hazard Log have been issued. This operating regulation has been amended to be compliant with the ICAO SARP as contained in Annex 19, Edition 2.

1.5 ICAO Annex 19, Edition 2, has introduced new requirements such as safeguarding of safety data which is beyond the requirements of ICAO Annex 13. Gap Analysis with Annex 19, Edition 2 has been carried out and changes in the relevant documents are in progress.

1.6 In compliance with the State Safety Programme, based on the analysis of the aggregate safety data and the guidance provided by the ICAO, DGCA- India has identified Seven State Safety priorities along with associated lead and lag performance indicators, safety objectives and the safety action plan to meet the objectives.

1.7 Based on the analysis of the aggregate data, the performance of the State Safety Priority and associated safety performance indicators has been assessed. This has given input for identifying the areas of greater concern, adjust the safety action plan and the targets.

2. DISCUSSION

2.1 Legislative Provision

2.1.1 *Current provision*

India introduced Rule 81 in Primary legislation, the Aircraft Rules 1937, requiring specific service providers to implement Safety Management System as early as 2004. The existing arrangements were reviewed and the Primary legislation was subsequently amended. This led to the introduction of Rules 29C and 29D which required the establishment of the SSP by State and Safety Management Systems by the operators in line with the ICAO SARPS. At the same time, existing Civil Aviation Requirements were reviewed and updated as necessary.

2.1.2 To provide guidance to the service providers in establishing their safety management system subordinate legislation in the form of the Civil Aviation requirement CAR Section 1 Series C Part I was also issued in 2010. This prescribes a phase-wise approach and the activities to be carried

out in each phase. This requirement has recently been amended in compliance with ICAO Annex 19 Edition 2.

2.1.3 **Annex 19 Edition 2 - Protection of the Safety Data**

Provision already exists in Primary legislation for the protection of the safety data under Annex 13. Protection of the information received as part of the confidential and voluntary reporting system has recently been introduced in the primary aviation legislation. This also includes protection of the source of the information. Incorporation of provision for the protection of the other safety data obtained under SDCPS is in process.

2.2 **Implementation of SSP and SMS**

2.2.1 *Establishing the required structure*

The implementation of the SSP in India was a significant task, not least because of the size and complexity of the aviation industry. In order to effectively manage and gain support for the implementation, new structures were created which involved much of the aviation industry.

An SSP Steering Committee headed by the Secretary Civil Aviation, Government of India was established to oversee and monitor the implementation of SSP and Safety policy by the State. The committee comprised representatives from the government, the DGCA, defence authorities and major service providers. In addition, a new DGCA SSP/SMS Division was established under overall Chairmanship of the Director-General to practically manage the implementation of the SSP and to ensure implementation of requirements of SMS by stakeholders. The SSP/SMS Division is part of the Air Safety Directorate and provides a safety focal point for all Directorates of DGCA.

2.2.2 *Implementing the SSP*

An implementation plan was drawn up for each phase of the SSP. The implementation is managed by the SSP/SMS Division and is overseen by the SSP Steering Committee.

2.2.3 *Supporting Service Providers to implement their SMS*

With over 200 service providers of differing sizes and maturity, providing an appropriate level of support was a significant undertaking. To assess the size of the task, the first step for all service providers was to carry out a gap analysis to analyze existing processes against the new SMS requirements. The DGCA facilitated this by developing a user-friendly tool which allowed in-house analysis by the service provider followed by a review with dedicated teams from the regulator.

Having completed the gap analysis, service providers then developed an implementation plan and, through a series of workshops attended by most aviation organizations in India, were provided with information on the SSP, changes to regulations and practical guidance to develop an SMS.

The DGCA prioritized and focused its efforts on providing direct support to 25 'major' aviation organizations making up over 75% of aviation activity in India. These included all major airports, airlines, MROs and the ANSP. A series of SMS oversight meetings and visits were undertaken to provide practical support, assess progress and learn lessons which could be adopted by other service providers. The process was supported by field officers and inspectors from most Directorates which ensured a wider understanding of SMS across the DGCA.

The DGCA also responded to the requests of service providers by providing both general guidance (including routine safety bulletins) and specific guidance material such as an example hazard log/risk register and guidance which describes in detail potential sources of data, its input and utilization of risk assessments in determining the safety performance indicators by the operator for itself.

As good progress had been made by many stakeholders, DGCA has prioritize resources to provide additional support to those that had not yet met all of the requirements.

SMS has also been introduced in the type design and manufacturing organisations in India. This sector is governed by stringent requirements and the quality control. There is need to develop specific guidance for the implementation of the SMS in the Type Design and Manufacturing organisation

2.3 Safety Performance Measurement and the establishment of a basic ALoS

New data collection, storage and analysis processes are being developed to provide a more accurate picture of aviation safety performance. With the analysis of the safety data, India has established Seven State Safety priorities and associated safety performance indicators, objectives and yearly targets. This has enabled India to of establish a basic State Acceptable level of safety performance (ALoS) and a State Safety Plan available on DGCA website www.dgca.nic.in. The seven safety priorities are:

- Airborne conflict
- Controlled flight into terrain
- Runway excursions and overruns
- Wildlife and bird strikes
- Loss of control in flight
- Ground collisions and ramp safety
- Deficient maintenance

India has implemented processes for measuring safety performance at a State level. The result of the measurement of the safety performance framework has been published as Annual safety Review 2016 available on DGCA India website www.dgca.nic.in. Similar exercise is being undertaken for the following year. Based on the analysis and the experience gained, India is in process of further accurately define the ALoS.

At the service provider level, India is in the process of the acceptance of the Safety Performance Indicators of the mature service providers.

To date, the safety performance of service providers has been assessed by conducting routine audits and inspections of service providers and by collecting and analyzing data from the existing Mandatory Occurrence Reporting system and Voluntary Reporting System and, for example, the 100% monitoring of DFDR data by scheduled operators. India is in the process of implementing a risk based approach to surveillance, this will enable it to prioritize its resources to the areas of greater concern.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to:

- a) Note the information contained in this Paper.
- b) Take action to develop robust guidance on risk based surveillance.
- c) Take action for developing specific guidance for the implementation of SMS in type design and manufacturing organisations.

— END —