International Civil Aviation Organization

The Eighth Meeting of the Asia/Pacific
Aerodrome Assistance Working Group (AP-AA/WG/8)

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Agenda Item 3: Aerodrome Certification and Safety Management System

SAFETY MANAGEMENT SYSTEM - SAFETY CULTURE IN AERODROME OPERATIONS

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SUMMARY

This paper presents the safety culture transformation journey of **Rajiv Gandhi International Airport (RGIA), India**, achieved through a structured, leadership-driven safety promotion framework aligned with the **International Civil Aviation Organization (ICAO) Safety Management System (SMS)** principles.

The paper outlines the governance reforms adopted, visible leadership engagement initiatives, targeted capability development programmes, stakeholder integration mechanisms, and measurable safety outcomes. The experience demonstrates a scalable, cost-effective model for strengthening safety culture across **airside, terminal, and landside operations**.

1. INTRODUCTION

1.1 Rajiv Gandhi International Airport (RGIA) is India's 4th largest and one of the fastest growing airports, developed under a Public Private Partnership (PPP) model. The airport has undergone a major expansion programme, increasing its passenger handling capacity from 12–15 mppa to 40 mppa, supported by extensive development of airside, terminal, and landside infrastructure.

1.2 This rapid growth involved large scale construction activities, significant operational changes, and induction of a substantial number of new personnel across airlines, ground handling agencies, contractors, concessionaires, and third party service providers.

1.3 While essential for future capacity enhancement, this transformation introduced multiple safety challenges, including:

- Rapid influx of personnel with varied safety awareness and competency levels
- Increased interface risks between construction activities and live operations
- Limited visibility and under reporting of minor incidents, particularly in terminal and landside areas
- Historically stronger safety focus on airside operations compared to non-airside environments

1.4 Incident analysis and stakeholder consultations revealed that many hazards and minor injuries outside the airside were either under reported or not reported, limiting opportunities for proactive risk identification and mitigation.

1.5 These findings highlighted the need for a comprehensive safety promotion strategy extending beyond airside operations, strengthening reporting culture, and embedding shared safety ownership across the entire airport ecosystem.

2. DISCUSSION

2.1 RGIA adopted a structured and phased safety promotion approach aligned with the four pillars of the ICAO SMS framework:

- Safety Policy;
- Safety Risk Management;
- Safety Assurance; and
- Safety Promotion.

Safety Governance Framework at RGIA

2.2 **Safety Perception Survey** - Over and above the ICAO SMS framework, GHIAL partnered with DuPont Safety Solutions (DSS) the renowned Safety Consultants to conduct a Safety Perception Survey across employee categories and stakeholders. This Safety Perception Survey is part of Complete Safety Assessment, which **had 4 steps – i) Safety Perception Survey, ii) Stakeholder interviews, iii) Data & document review, and iv) Site visits.**

2.2.1 **Apex Safety Committee**: Post survey by the DSS Consultants, RGIA established a 12-member Apex Safety Committee, headed by the Chief Executive Officer (CEO), with representation from the Deputy CEO, Chief Operating Officer (COO), and senior functional leaders from various departments.

2.2.2 The Committee provides strategic direction, reviews safety performance, and ensures alignment between safety objectives and organizational goals. The COO functions as Director – Implementation, ensuring effective translation of strategy into operational action.

2.3 Safety Sub Committees

2.3.1 Five specialized Safety Sub Committees support the Apex Committee, each chaired by a senior leader:

- **Safety Interaction (SI):** Leadership-led safety observations and Visible Felt Leadership (VFL)
- **Incident Management (IM):** Incident reporting, investigation, and corrective action closure
- **Rules & Procedures (RnP):** Development and audit of safety standards and procedures
- **Contractor Safety Management (CSM):** Contractor integration and risk control
- **Capability Development & Communication (CD&C):** Training, awareness, and safety communication

2.4 Area Implementation Teams (AITs)

2.4.1 Operational execution is driven through Area Implementation Teams for Airside, Terminal, and Landside areas, ensuring localized ownership, timely risk mitigation, and feedback to governance forums.

2.4.2 To ensure a knowledgeable and safety-aware workforce, we have identified and established **High-Risk Activity (HRA) standards** covering scope, applicability, guidelines, and SOPs. Structured training has been conducted for employees and contractor personnel on the following HRAs:

- Work at Height (WAH) Safety;
- Electrical Safety Management System;
- Confined Space Entry; and
- Permit-to-Work (PTW) System.

2.4.3 To date, more than 4000+ workmen have been trained across all HRA categories. These trainings ensure comprehensive understanding of hazards, control measures, roles, and safe execution requirements for critical activities.

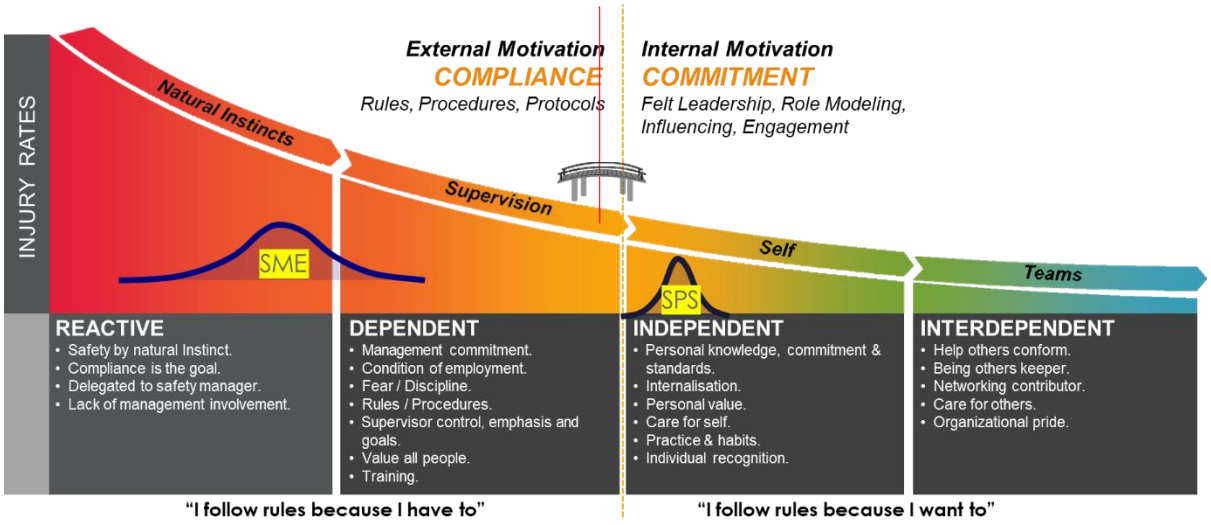
Conclusion

2.5 RGIA's safety promotion initiative has resulted in measurable and sustainable improvements in safety performance, reporting culture, and stakeholder engagement across airside, terminal, and landside operations.

2.6 In the 2022 safety assessment, the organization's safety culture was concentrated predominantly in the Reactive to Dependent range. At this stage, safety performance was mainly driven by compliance, supervision, and adherence to rules and procedures. Motivation was largely external, and the system relied heavily on oversight to ensure safe behaviors.

2.7 By contrast, the 2025 safety assessment shows a clear shift toward the Dependent to Independent stages by Safety perception Survey (PSP). However, the practical approach and various assessments show that GHIAL **safety culture has improved a lot and lies between Reactive & Dependent range by Bradley Curve**.

2.8 This movement to the right on the Bradley **Curve reflects tangible progress in safety culture maturity**. Employees demonstrate greater internal motivation, increased personal ownership, and the development of consistent safe habits and personal standards. Such a shift is typically associated with improved risk awareness, stronger felt leadership, and ultimately lower injury rates.



3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper;

b) share experiences and best practices on safety promotion and safety culture enhancement; and

c) discuss any relevant matters as appropriate.

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