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The Tenth Meeting of the Aerodromes Operations and
Planning Sub-Group (AOP/SG/10)

Bangkok, Thailand, 10 to 14 August 2026

**Agenda Item 5: State's/Aerodrome Operator's update and best practices on:
– Safety management oversight of ground handling services**

**BEST PRACTICES IN GROUND HANDLING SERVICES AT KEMPEGOWDA
INTERNATIONAL AIRPORT, BENGALURU**

(Presented by INDIA / BANGALORE INTERNATIONAL AIRPORT LIMITED)

SUMMARY

This paper outlines best practices implemented at Kempegowda International Airport, Bengaluru (KIAB) to enhance ground handling safety through a structured oversight and operational framework. Key initiatives include standardization of equipment, enforcement mechanisms, recovery preparedness drills, and proactive safety promotion through the Hazard Identification Task Group and Goal Zero Programme. These measures integrate GHSP safety management systems with the aerodrome SMS, fostering a proactive safety culture, continuous improvement, and operational excellence.

1. INTRODUCTION

1.1 Ground handling is a critical aspect of aviation operations, directly influencing safety and efficiency. The increasing size of aircraft, growth in ground support equipment, faster turnaround requirements, and rising air traffic have significantly intensified the complexity of apron operations. With multiple third-party service providers operating simultaneously, apron areas have become highly congested, making ground operations one of the most challenging and potentially hazardous environments within an airport.

1.2 India has established a comprehensive regulatory framework aligned with ICAO SARPs to address these challenges. This paper presents best practices observed at Kempegowda International Airport, Bengaluru (VOBL), as an example of effective regulatory implementation and aerodrome-level execution of ground handling safety requirements.

2. DISCUSSION

GHSP Safety Clearance by the Regulator

2.1 The increasing complexity of global aviation demands a proactive and structured approach to safety. Ground Handling Services form an integral component of aerodrome operations and directly influence aircraft safety. The DGCA India mandate GHSP providing or intending to provide ground handling service at Indian airport(s) shall have Valid permission & Security clearance from the regulator. Safety at Kempegowda International Airport is a shared responsibility involving airport operator, airlines, ground handling agencies, airport tenants, contractors, and all service providers engaged in airside operations through:

- Standardization of Ground Handling Equipment
- Enforcement of Ground Support Equipment Maintenance & Serviceability
- Safety Promotion focus on GHA
- Maturity matrix of SMS

Standardization of Ground Handling Equipment

2.2 The regulator in India has undertaken significant initiatives to standardize Ground Handling Equipment (GSE) at airports, focusing on safety, efficiency, and sustainability. Recent developments have centred on mandatory safety clearances and promoting green energy in ground handling operations. The state has encouraged adopting state-of-the-art equipment that complies with the International Air Transport Association (IATA) Airport Handling Manual, ensuring uniformity across major airports.

To ensure compliance to the guidelines issued by the state regulator, safety, reliability and efficiency of ground handling operations at KIAB, specific age limits are established for GSEs/GSVs. These limits are designed to maintain high operational standards and minimize the risk of equipment failure.

Enforcement of Ground Support Equipment Maintenance & Serviceability

2.3 The maintenance of vehicles and equipment operating at KAIB is a critical aspect of operational safety. To mitigate related hazards, a penalty point system has been implemented to monitor the condition and compliance of GSEs. This system enables agencies to identify equipment with higher penalty points and focus maintenance efforts on specific areas of concern. It also assists the Ground Services Division (GSD) in maintaining accurate records and taking timely corrective actions to enhance overall airside safety.

The violations are categorized to two categories as Major & Minor and which will attract 4 penalty points and 2 penalty points respectively.

- Examples of Major Penalties
 - Fuel spillage more than 10 Sq. mts.
 - Vehicle Brakes not functional.
 - Oil spillage more than 4 Sq. mts.
- Examples of Minor Penalties
 - Partially Bald Tyre.
 - Light not working (Head light, Parking, Indicator).
 - Over speeding due speed governor not installed/disconnected/unserviceable.

Zero Tolerance Violations to Promote Compliance and Good Practices

2.4 The following violations will attract Zero Tolerance enforcement and immediate action:

Violation	Action
Fire or smoke from vehicle/equipment	4 points + AVP/AEQP suspension 14 days
Breakdown on Cross Service Road /taxiway/taxi lane	4 points + AVP/AEQP suspension 14 days
Unapproved/new modifications	4 points + Suspension 14 days
Major oil/fuel spillage (> defined limits)	4 points + Suspension 14 days

Accumulation of Penalty Points and Permit Withdrawal

2.5 Based on the accrued penalty points the following actions will be initiated.

Total Points	Action
10 points	Permit withdrawn for 7 days
12 points	Permit withdrawn for 14 days
14 points	Permit withdrawn for 30 days
>14 Points	Every additional point = 60-day withdrawal + ATR from HOD
30 points	Permanent withdrawal of AVP/AEQP

Bonus Point Eligibility Policy

2.6 Two bonus points will be rewarded to any AVP/AEQP once the said GSE performs without any violation for three continuous months from the last violation date. The two points will be deducted from the cumulative points till it reaches zero. Reissuance of permit after penalty period will be subject to inspection and clearance by the permit issuance team.

Vehicle Recovery Preparedness and Drills

2.7 In a busy airside environment, any vehicle or equipment breaking down in any operational area may lead to operational disruptions including for aircraft. Hence, availability of a robust recovery plan for broken down vehicles is imperative for safe and efficient operations of any airport. The Vehicle recovery preparedness is strengthened through regular recovery and resilience drills involving aerodrome operators, Ground Handling Agencies (GHAs), and other airside stakeholders. These structured exercises are designed to simulate abnormal and emergency scenarios, ensuring readiness and effective response across all involved entities.

2.8 The programme enhances inter-agency coordination, communication, and operational efficiency, enabling timely and safe recovery of disabled vehicles while minimizing disruption to aircraft operations. It also facilitates identification of procedural gaps and continuous improvement in recovery strategies.

2.9 Through these drills, the organization reinforces its commitment to operational resilience, safety assurance, and compliance with ICAO safety management principles, ensuring a coordinated and effective response to airside contingencies.

2.10 Process for Vehicle recovery exercise:

- Notification & Coordination
- Recovery Equipment Readiness
- Competent Personnel Readiness
- Safety Assessment
- Recovery Execution
- Post-Recovery Actions

Safety Promotion Focus on GHA through HITG & Goal Zero Programme

2.11 A dedicated Hazard Identification Task Group (HITG) consisting of members from Airport Operator, Ground Handlers, Self Handlers, Fuelling Agencies and Catering Agencies has been established at this airport. The selected members are provided with intensive SMS training by the airport operator. The HITG functions as a structured forum for:

- Systematic identification of hazards related to ground handling and apron operations
- Review of reported occurrences, near misses, and operational changes
- Assessment of emerging risks linked to traffic growth, new equipment, or procedures
- Recommendation of mitigation measures and safety enhancements

2.12 Outcomes of HITG deliberations are integrated into the Aerodrome SMS for monitoring and follow up. The group was further trained in enhanced Safety Data Management to derive Safety Intelligence and initiate remedial actions. This allowed the Safety Managers to cross-learn and develop effective mitigation measures by learning from other's mistakes.

2.13 The key achievement towards an enhanced safety culture through HITG is that the Airline and GHA are comfortable in discussing organizational safety risks under one roof with utmost integrity and cross learn effective mitigation measures and various good practices which is a leap towards Learning Culture.

Goal Zero Programme- Advancing Proactive Safety Culture through Structured Interventions

2.14 The indigenously developed “Goal Zero” Programme at KIAB is a proactive safety initiative aimed at fostering a strong safety culture and achieving zero incidents impacting aircraft operations and personnel safety. It is conducted as a annual calendar activity (12 sessions annually) focusing on prevention through structured monthly training sessions addressing critical operational risks and emerging safety concerns. It emphasizes human factors, operational discipline, and cross-functional coordination, ensuring safety is embedded across all levels of the organization. Supported by continuous monitoring through incident analysis, ATRs, and CAPA tracking, the programme enables identification of systemic gaps and effective mitigation. Aligned with global aviation safety principles, the “Goal Zero” Programme reinforces the organization's commitment to maintaining a safe, compliant, and incident-free operational environment.

2.15 The program for the year 2026 is as follows:

Month	Topic	Key Focus Area
Jan-26	Safe PBB operations	To reinforce safety culture by improving PBB awareness, competency, and compliance in Passenger Boarding Bridge (PBB) operation
Feb-26	Taxi lane crossing	Awareness among drivers & ramp staff with respect to critical areas. (Vehicle crossing in front/back of aircraft and person crossing taxi lane by walk)
Mar-26	BA Awareness	BA SOP Awareness with BIAL & GHA
Apr-26	Injuries at airside	Awareness with Airside staffs on lessons learnt from injuries at airside
May-26	Adverse weather	Precaution during high winds, heavy rain, Lightning and thunderstorm.
Jun-26	Defensive Driving	Fatigue, Speed driving, Distractive driving, 2 second rule, reversing procedures, Driving in confined Zone
Jul-26	GSD Enhancement	Hydraulic oil leak, under chassis inspection, DI (wheel movement check, buffers, QC)

Month	Topic	Key Focus Area
Aug-26	Diamond Zone Activity	Normalization of SOP deviations within Diamond Zone. Speed limit, GSE aligning with aircraft.
Sep-26	Aircraft Engineering Team (ASR awareness)	Awareness of AVDGS, safe marshalling, and responsibility of headset operators. Maintenance operations (oil spillage, PBB disconnection before wheel change, usage of personnel tool, trestle buffers)
Oct-26	VSR drive	Awareness with Airside staff on importance of reporting culture and increasing VSR from all verticals of airside
Nov-26	LVOP Preparedness	Awareness session on the latest procedures in Apron LVOP within BIAL community and stakeholders.
Dec-26	PBB training module	Review of Training module, Awareness of safe PBB operation & maintenance (DI, activation of safety sensors, checks on schedule maintenance based on OEM)

Conclusion

2.16 Ground handling operations are critical to safe and efficient aerodrome functioning, particularly in high density environments such as Kempegowda International Airport, Bengaluru. The framework outlined in this paper demonstrates how a structured regulatory approach, supported by strong aerodrome-level governance, enhances safety through GHSP clearances, standardization enforcement mechanisms, and recovery preparedness. Equally, the integration of GHSP Safety Management Systems with the aerodrome SMS—supported by initiatives such as the Hazard Identification Task Group and the “Goal Zero” Programme, drives a proactive safety culture, transparency, and continuous improvement. Collectively, these measures reflect a collaborative and forward looking approach aligned with vision of DGCA, positioning KIAB as a replicable model for achieving sustained safety and operational excellence in ground handling.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any relevant matters as appropriate.

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