



ICAO

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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:
– Runway safety programme including the establishment of runway safety team**

**EFFECTIVENESS OF RUNWAY SAFETY TEAM IN GRF IMPLEMENTATION AT
KEMPEGOWDA INTERNATIONAL AIRPORT BENGALURU**

(Presented by INDIA / BANGALORE INTERNATIONAL AIRPORT LIMITED)

SUMMARY

This paper clearly demonstrates how the Runway Safety Team (RST) served as the key enabler for successful Global Reporting Format (GRF) implementation at Kempegowda International Airport, Bengaluru. The paper effectively links ICAO runway safety objectives with practical operational experience and highlights the integration of GRF into the airport's Safety Management System (SMS). Its strengths lie in demonstrating stakeholder coordination, governance, competency oversight, quality assurance, and data driven decision making.

1. INTRODUCTION

1.1 Implementation of the Global Reporting Format (GRF) represents a paradigm shift in runway surface condition reporting, aimed at reducing the risk of runway excursions through standardized, performance-based information. However, the effectiveness of GRF is highly dependent on coordinated implementation, consistent interpretation, and sustained operational oversight. This paper examines the critical role of the Runway Safety Team (RST) in enabling effective GRF implementation at Kempegowda International Airport, Bengaluru (VOBL), a high-capacity international aerodrome operating in complex meteorological and operational conditions. The paper demonstrates how the RST acted as the central governance and integration mechanism, ensuring alignment between aerodrome operator, air traffic services, aircraft operators, and regulatory expectations. The experience at Bengaluru while implementing GRF highlights that robust RST functionality is essential for transforming GRF from regulatory compliance into an effective runway safety risk mitigation tool.

1.2 Runway excursions remain one of the most frequent categories of aircraft accidents and serious incidents globally. ICAO's Global Aviation Safety Plan (GASP) identifies runway safety as a high-risk area requiring coordinated, system-wide interventions. The introduction of the Global Reporting Format (GRF) in November 2021 aimed to address long-standing inconsistencies in runway contamination reporting by providing a globally harmonized methodology linking runway surface conditions to aircraft landing and take-off performance. However, ICAO guidance clearly recognizes that GRF effectiveness depends not only on procedures, but on organizational coordination, human performance, and continuous oversight.

1.3 At Kempegowda International Airport, Bengaluru, the Runway Safety Team (RST) has played a central role in ensuring effective and sustainable GRF implementation. This paper focuses on how the RST facilitated governance, coordination, assurance, and continuous improvement of GRF processes at the aerodrome.

2. DISCUSSION

Operational Context of Bengaluru International Airport

2.1 Kempegowda International Airport is among India's busiest airports, characterized by dual parallel runway operations, high-density domestic and international traffic, wide variety of aircraft types, including long haul wide body operations, intense monsoon rainfall leading to frequent wet and contaminated runway conditions, night operations and low visibility procedures. These factors make accurate runway surface condition assessment and reporting operationally critical, particularly during monsoon seasons when runway excursion risk is elevated.

Runway Safety Team (RST): Framework and Responsibilities

2.2 The RST at Bengaluru International Airport is established in accordance with ICAO Doc 9870 and comprises representatives from:

- Aerodrome operations and airfield maintenance
- Aviation safety (SMS)
- Air Traffic Control (ATC)
- Scheduled and non-scheduled aircraft operators
- Ground handling agencies
- Rescue and Fire Fighting Services (RFFS)
- CNS/ATM and meteorological services

RST Mandate Related to GRF

2.3 With the introduction of GRF, the RST's scope was expanded to include:

- Conducting Safety Case Assessment and Reporting System (SCARS) Document as mandated by DGCA.
- Identification of GRF-related hazards
- Oversight of GRF implementation strategy
- Monitoring assessment consistency and data quality
- Coordinating mitigation actions across stakeholders

Role of the RST in GRF Implementation

2.4 The RST acted as the primary governance forum to manage the transition from legacy reporting methods to GRF. This included:

- Reviewing and approving revised runway inspection procedures.
- Monitoring GRF trial plan.
- Ensuring alignment between aerodrome, ATC, and operator expectations.
- Providing a structured platform to address implementation challenges
- The RST ensured GRF was implemented as a safety enhancement, not merely a regulatory requirement.

Training and Competency Oversight

2.5 A key RST contribution was oversight of training and competency development:

- Identification of training needs for runway condition assessors
- Review of GRF awareness for ATC and flight crew stakeholders
- Evaluation of human factors challenges in runway condition assessments, especially during rapidly changing weather.
- Feedback from operators and ATC was brought back to the RST for corrective action.

Consistency and Quality Assurance

2.6 The RST regularly reviewed:

- Accuracy and consistency of Runway Condition Codes (RWYCC)
- Correlation between observed runway conditions and operational feedback
- Trends in pilot braking action reports
- This monitoring role helped identify inconsistencies, subjectivity, and areas requiring refinement or further guidance.

RST Driven Integration of GRF into SMS

2.7 Through effective Hazard Identification and Risk Assessment by the RST, GRF output was integrated into the aerodrome Safety Management System (SMS). Identified hazards included:

- Implementation of new procedure leading to possible human errors.
- Difficulty in identifying 1/3rd of runway or accurate water depth
- Additional tools carried by Follow me vehicles for data collection
- Markers on Runway shoulders and reflective paint on runway centre line marking to indicate 1/3rd of runway length.
- Delay in reporting RCR to ATC and further to flights.
- Time pressure during peak operations

These hazards were formally assessed, documented, and mitigated through Safety Case Assessment and Reporting System.

2.8 Results of combined RST–GRF approach

- Availability of multiple competencies (Pilot, Controller, Airport Operations)
- Enhanced clarity of runway condition information to flight crews
- More informed operational decision-making during monsoon operations
- Reduced ambiguity during go / no-go assessments
- Proactive engagement on runway safety issues
- GRF discussions within the RST encouraged constructive dialogue rather than reactive responses.

Conclusion

2.9 Operating in a complex environment characterized by dual-runway operations, high traffic density, diverse aircraft types, and challenging monsoon conditions, Bengaluru Airport requires accurate and timely runway condition assessment. Through structured collaboration between aerodrome operations, air traffic services, aircraft operators, safety personnel, and other stakeholders, the RST facilitated a smooth transition to GRF and embedded its outputs within the airport's Safety Management

System. GRF provides standardized, performance-linked operational information, however, it is the RST that ensures consistency, coordination, assurance, and continuous improvement. By serving as the central integration platform between procedures, people, and performance, the RST has enabled GRF to deliver tangible runway safety benefits. This case reinforces ICAO's position that robust RSTs are a critical enabler for sustainable runway safety improvements. The experience at Kempegowda International Airport, Bengaluru, demonstrates that the effectiveness of the Global Reporting Format is strongly dependent on the functionality of the Runway Safety Team and it is fundamental to realizing the full safety benefits of GRF and serves as a practical model for strengthening runway safety in support of ICAO, SSP, and GASP objectives.

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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