International Civil Aviation Organization



First Meeting the Runway and Ground Safety Working Group (RGS WG/1)

(Cairo, Egypt, 7-9 April 2014)

RASG-MID/3 Report

Agenda Item 2: Implementation of Aerodrome Safety Priorities and Objectives in the MID Region

REVIEW AND UPDATE OF THE RGS SEIS AND DIPS

(Presented by the RGS Coordinator)

SUMMARY
The paper provides an update on the initiatives made by MID-RAST in the area of Runway and Ground Safety (RGS) including updated drafts of the Safety Enhancement Initiatives (SEIs) and Detailed Implementation Plans (DIPs).
Action by the meeting is at paragraph 3.
References

1. INTRODUCTION

1.1 Runway and Ground Safety (RGS) was identified by the MID Region Annual Safety Report Team (ASRT) as one of the three main risk areas (Focus Areas) to be addressed under the RASG-MID framework.

1.2 According to the 2012 Regional Annual Safety Report, Global Runway Safety accidents represented 59% of all accidents accounting for 29% of all fatal accidents and 19% of all related fatalities reported between 2006 and 2010. In the MID Region, Runway Safety accidents represented 63% of all accidents accounting for 50% of all fatal accidents and 18% of all related fatalities reported and runway excursions represent 43% of the Runway Safety related accidents.

2. **DISCUSSION**

2.1 Further to the Runway Ground Safety update provided to RASG-MID/3 held in Kuwait, 27-29 January 2014; the RGS SEIs and DIPs have been updated as follows:

2.1.1 The initial eight SEIs have been consolidated into three and the two supporting DIPs were combined into a single DIP in support of MID-RAST/RGS/01. The SEIs were consolidated according to the following table:

	Current		RASG-MID/2-WP/9
MID- RAST/	Specific training for pilots and air traffic controllers to avoid unstabilized approaches and promotion	MID- RAST/ RGS/1	Specific training for pilots and air traffic controllers to avoid unstabilized approaches
RGS/1	of pilot adherence to Standard Operating Procedures for approaches	MID- RAST/ RGS/2	Promote pilot adherence to Standard Operating Procedures for approaches including go-around decision making
		MID- RAST/ RGS/3	Develop guidance material and training programs to support creation of action plans by local aerodrome runway safety teams.
MID- RAST/	Develop guidance material and training programs to support creation of action	MID- RAST/ RGS/5	Timely and accurate notification regarding runway conditions and weather by AIS and ATS units
RGS/2	plans by local aerodrome runway safety teams.	RAST- MID/R GS/08	Identification of aerodrome Hot Spots and publish Hot Spot data in AIP if necessary. Development of Hot Spot charts will depend on aerodrome complexity and incident data/analysis. Each aerodrome should positively respond that analysis has been undertaken at a minimum.
		MID- RAST/ RGS/4	Promote /monitor Implementation RESA including other means such as arresting systems
MID- RAST/ RGS/3	Focus on Aerodrome Infrastructure and Maintenance Management	MID- RAST/ RGS/6	Regulation, guidance and specific training in relation to maintaining aerodrome runway/taxiway related markings
		MID- RAST/ RGS/7	Regulation, guidance and specific training in relation to maintaining runways in accordance with Annex 14

2.1.2 Further to the update of Global Aviation Safety Plan (GASP) and its approval by the Air Navigation Commission (AN-WP/8726, 28 February 2013), the three SEIs were reviewed and realigned to the GASP as follows:

SEI	GASP Safety Initiative (ICAO Doc 10004)	Best Practices Supporting GASP Safety Initiative (ICAO Doc 10004, Appendix 2)
MID- RAST/ RGS/1	Safety Management Standardisation: Consistent Implementation of Safety Management Systems Implementation of Risk-Based Standardization Initiatives Safety Oversight Standardization: Compliance with National Regulations and Adoption of Industry Best Practices	1.1.1 BP-GEN-1 BP-GEN-2 BP-GEN-4 BP-STD-I-1 BP-STD-I-4
MID- RAST/ RGS/2	Safety Management Collaboration: Promotion of a Multi-Disciplinary Risk Management Approach Safety Information Exchange: Support of Safety Management Implementation	1.1.2 BP-GEN-1 BP-GEN-2 BP-GEN-4 BP-GEN-6 BP-STD-I-4 BP-SIE-I-3

MID- RAST/ RGS/3	Safety Management Standardization: Consistent Implementation of Safety Management Systems Safety Oversight Standardization: Consistent Implementation of International StandardsCompliance with National Regulations and Adoption of Industry Best Practices	1.1.3 BP-STD-S-11 BP-STD-I-2 BP-STD-I-4
------------------------	---	---

2.1.3 The SEIs and DIPs related to RGS as approved by the RASG-MID/3 are at **Appendices A and B** to this working paper, respectively.

2.1.4 The MID-Region Safety Strategy was endorsed by the DGCA-MID/2 meeting in Saudi Arabia, 20 - 22 May 2013. The meeting is invited to review the mapping of the Action Plan associated with the Runway and Ground Safety Metrics to the MID-RAST RGS SEIs as reflected in the below table:

Safety Indicator	Safety Target	Action Plan	Link to RGS SEI/DIP
Number of Runway	Reduce Runway Excursions related	Establishment and support of local Runway Safety Teams.	MID-RAST/RGS/2
excursion related accidents	accidents by	Establishment of Regional RST GO-Team.	MID-RAST/RGS/2
as a percentage of all accidents	50% by the end of 2017	Effective reporting system to exchange and analyse safety information.	MID-RAST/RGS/2
		Runway Safety Seminar/Workshop.	MID-RAST/RGS/2
Number of Runway incursion	Reduce Runway Incursions	Adopt specific regulations related to runway safety.	MID-RAST/RGS/1 MID-RAST/RGS/3
related accidents as a percentage of all accidents	related accidents by 50% by the end of 2017	Identify hazards and mitigation measures on runway excursions/incursions and unstabilized approach, and develop guidance material and specific training.	MID-RAST/RGS/1 MID-RAST/RGS/3

2.2 The DIP in support of Local Runway Safety Teams (MID-RAST/RGS/2) has been progressed further to the following activities:

- 2.2.1 Development of ICAO Runway Safety Team Handbook.
- 2.2.2 Incorporation of RGS initiatives in the MID-RASG Work Programme.

3. ACTION BY THE MEETING

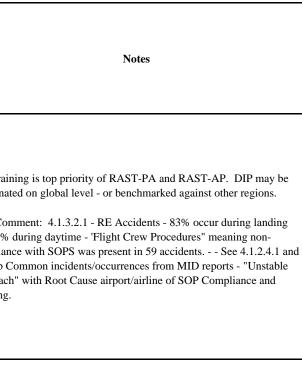
- 3.1 The meeting is invited to:
 - a) note the RGS SEIs and DIPs that have been endorsed by RASG-MID; and
 - b) take appropriate actions to support implementation of the RGS DIPS.

APPENDIX A

RUNWAY GROUND SAFETY (RGS) SEIS - MOHAMMAD AL DOSSARI - UAE GENERAL CIVIL AVIATION AUTHORITY

No	Safety Enhancement Action	GASP Safety Initiative (ICAO Doc 10004)	Best Practices Supporting GASP Safety Initiative (ICAO Doc 10004, Appendix 2)	Safety Impact	Changeability	IC Indicator	Priority	Possible Champion	Time Frame	
MID-RAST/RGS/1	Specific training for pilots and air traffic controllers to avoid unstabilized approaches and promotion of pilot adherence to Standard Operating Procedures for approaches including go- around decision making	Safety Management Standardisation: Consistent Implementation of Safety Management Systems Implementation of Risk-Based Standardization Initiatives Safety Oversight Standardization: Compliance with National Regulations and Adoption of Industry Best Practices	BP-GEN-1 BP-GEN-2 BP-GEN-4 BP-STD-I-1 BP-STD-I-4	High	Moderate	Р2	1	ICAO, IATA, CANSO, IFALPA, States and Operators	Short Term	Pilot train coordinat ASR Con and 67% compliand 2 - Top C Approach Training.
MID-RAST/RGS/2	Develop guidance material and training programs to support creation of action plans by local aerodrome runway safety teams.	Safety Management Collaboration: Promotion of a Multi-Disciplinary Risk Management Approach Safety Information Exchange: Support of Safety Management Implementation	BP-GEN-1 BP-GEN-2 BP-GEN-4 BP-GEN-6 BP-STD-I-4 BP-SIE-I-3	High	Easy	Ρ1	2	ICAO-MID - Nominated State Champion - ACI - COSCAP	Mid-Term	ASR Con and 67% windshee Runway I however

RGS WG/1-WP/3 APPENDIX A



Comment: 4.1.3.2.1 - RE Accidents - 83% occur during landing % during daytime - weather is contributing in 47% (1st rain/2nd neer)

y Incursion data not included in RASG-MID ASR - First Edition er acknowledged by RSC/01 Agenda Item 2 paragraph 2.14

No	Safety Enhancement Action	GASP Safety Initiative (ICAO Doc 10004)	Best Practices Supporting GASP Safety Initiative (ICAO Doc 10004, Appendix 2)	Safety Impact	Changeability	IC Indicator	Priority	Possible Champion	Time Frame	
MID-RAST/RGS/3	Focus on Aerodrome Infrastructure and Maintenance Management with priority given to the following: - Promote /monitor Implementation RESA including other means such as arresting systems; - Regulation, guidance and specific training in relation to maintaining aerodrome runway/taxiway related markings; and - Regulation, guidance and specific training in relation to maintaining runways in accordance with Annex 14	Safety Management Standardization: Consistent Implementation of Safety Management Systems Safety Oversight Standardization: Consistent Implementation of International Standards Compliance with National Regulations and Adoption of Industry Best Practices	BP-STD-S-11 BP-STD-I-2 BP-STD-I-4	High	Difficult	Р3	3	ICAO-MID - Nominated State Champion	Long Term	ASR Con to inadequ 4.1.3.2.1

Notes

Comments: 4.1.3.2.1 - Ground damage in 33% of accidents related equate markings or signage or inadequate RESA.

2.1 - bar chart of contributing factors

		Detail	ed Implem	entatio	n Plan T	empla	ate		
Rast No Safety Enhancement Action		GASP Safety Initiative (ICAO Doc 10004)	Best Practices Supporting GASP Safety Initiative (ICAO Doc 10004, Appendix 2)	Safety Impact	Changeability	Indicator	Priority		
MID-RAST/RGS/1	Specific training for pilots and air traffic controllers to avoid unstabilized approaches and promotion of pilot adherence to Standard Operating Procedures for approaches including go- around decision making	 Safety Management Standardisation: Consistent Implementation of Safety Management Systems Implementation of Risk-Based Standardisation Initiatives Safety Oversight Standardisation: Compliance with National Regulations and Adoption of Industry Best Practices 	BP-GEN-1 BP-GEN-2 BP-GEN-4 BP-STD-I-1 BP-STD-I-4	High	Moderate	P2	1		
Safety Enhancemer	nt Action (expanded)	Promote specific training for pilots and air traffic controllers to avoid unstabilized approaches and pilot adherence to Standard Operating Procedure through ICAO guidance, States' oversight and guidance, Operators' SMS and industry lead awareness and training initiatives. The initiatives seeks to events.							
		ICAO Actions 1. Publish circular requiring States to provide increased oversight Audits using risk based approach and the necessary guidance on pilot adherence to 2. Publish circular requiring States to implement safety promotion and associated training programmes including strategies to avoid unstabilized ap 3. Review ICAO work programme and consider including the subject as part of relevant regional workshops and existing symposiums where deemed 4. Ensure SEI is added to the MID-Region Strategic Plan.							
Statement of Work		States' Actions 1. Review regulation and guidance material to ensure the materials of the ICAO circulars and supporting ICAO SARPS are adequately reflected 2. Ensure that safety oversight activities include specific items (core items, checklist, pre-audit assessment) clearly identify these areas and move to 3. Ensure that Operators' SMS include a link to and participation in the local aerodrome runway safety programs such as the Local Runway Safety Te 4. Ensure the Operators are capturing unstabilized approach through effective SMS practices - specifically Safety Risk Management and Safety Prom							
		 Operators' Actions 1. Review and ensure that induction, training and awareness initiatives specifically address the following issues: A. pilot adherence to Standard Operating Procedures in relation to Go-Around Decision Making; and B. specific training to avoid situations which may result in unstabilized approaches. 2. Ensure SMS includes a link/actions to and participation in the local aerodrome runway safety programs such as the Local Runway Safety Teams 3. Ensure SMS process has identified these the above risks as part the formal Safety Risk Management process 							
		 IATA - IFALPA - CANSO Actions 1. Review and ensure that regional strategy and awareness initiatives specifically address the following issues: A. pilot adherence to Standard Operating Procedures in relation to Go-Around Decision Making; and B. specific training to avoid situations which may result in unstabilized approaches. 							
Champion Organiza	ation	ICAO, IATA, FSF, IFALPA, IFATCA and CANSO							

Time Frame Short Term ures for approaches including go-around decision making s to leverage existing regulatory framework and industry

e to SOPs. approaches for Pilots and Air Traffic Controllers. ned applicable.

towards risk based oversight approach / Teams omotion activities.

Rast No	Safety Enhancement Action	GASP Safety Initiative (ICAO Doc 10004)	Best Practices Supporting GASP Safety Initiative (ICAO Doc 10004, Appendix 2)	Safety Impact	Changeability	Indicator	Priority		
Human Resources		 ICAO - International Civil Aviation Organisation (MID and HQ) IATA - International Air Transport Association (MENA and HQ) IFALPA - International Federation of Airline Pilot's Association CANSO - Civil Air Navigation Services Organisation States Aircraft Operators 							
Financial Resource	S								
Relation with Curre	nt Aviation Community Initiative	ICAO Runway Safety Program ICAO Runway Safety Program ICAO/IATA Runway Excursion Risk Reduction Toolkit FSF Approach and Landing Accident Reduction (ALAR) Toolkit (version June 2010) FSF Runway Safety Initiative (RSI) - "Reducing the Risk of Runway Excursions" FSF Operators Guide to Human Factors in Aviation (FSF European Advisory Committee) FSF Annual Flight Safety Conference (most recent in September 2012) France Directorate General of Civil Aviation - Unstabilized Approaches France Directorate General of Civil Aviation - Stabilised Approaches Good Practice Guide France Directorate General of Civil Aviation - Synthesis on Unstable Approaches EWGRS - European Action Plan for the Prevention of Runway Excursions Airbus - Safety Library - Flight Operations Briefing Notes - Approach Techniques							
Performance Goal		Reduce relative number of runway excursions. MID-Regional Safety Strategy: Reduce Runway Excursions related accidents by 50% by the end of 2017.							
Indicators		Reduction of runway excursions resulting from unstable approaches, as a percentage of total movements, for 2013 and 2014.							
		 ICAO 1. Publish circular requiring States to provide increased oversight Audits regarding pilot adherence to SOPs. + 6 months from SEI endorsement 2. Publish circular requiring states to implement strategies to avoid unstabilized approaches for Pilots and Air Traffic Controllers. + 6 months from SEI 3. Confirm Review of ICAO program and inclusion of SEI in regional workshops and existing symposiums + 6 months from SEI endorsement 4. Ensure SEI is added to the MID Region Strategic plan. + 6 months from SEI endorsement 							
Key Milestones (Deliverables)		 States 1. Review of regulation and guidance material - as per timing in ICAO Circular + 6 months from date of ICAO Circular 2. Ensure that safety oversight activities include SEI specific items - as per timing in ICAO Circular + 6 months from date of ICAO Circular 3. Ensure Operators' SMS include a link to and participation in the local aerodrome runway safety programs + 12 month check from date of ICAO Cir 4. Ensure the Operators are capturing unstabilized approach through SMS + 12 month check from date of ICAO Circular 5. Items 4 and 5 maybe support by State bulletin to Operators + 3 month from date of ICAO Circular 							
		 Operator 1. Review and ensure that induction, training and awareness initiatives + 6 month from date of State Circular 2. Ensure SMS includes a link/actions to and participation in the local aerodrome runway safety programs + 6 month from date of State Circular 3. Ensure SMS process has identified these the above risks as part the formal Safety Risk Management process + 6 month from date of State Circular 							
		IATA - IFALPA - CANSO 1. Review and ensure that regional strategy and awareness initiatives specifically address the SEI + 12 months from SEI endorsement							

Time Frame n SEI endorsement Circular ılar

Rast No	Safety Enhancement Action	GASP Safety Initiative (ICAO Doc 10004)	Best Practices Supporting GASP Safety Initiative (ICAO Doc 10004, Appendix 2)	Safety Impact	Changeability	Indicator	Priority	Time Frame
Potential Blockers	tial Blockers Availability of required human resources from identified organisations Availability of financial resources							
Responsible• ICAO - International Civil Aviation Organisation (MID and HQ) • IATA - International Air Transport Association (MENA and HQ) • IFALPA - International Federation of Airline Pilot's Association • CANSO - Civil Air Navigation Services Organisation • Mid-Region States • Mid-Region Aircraft Operators								
Pilot training is top priority of RAST-PA and RAST-AP. DIP may be coordinated on global level - or benchmarked against other regions. DIP Notes ASR Comment: 4.1.3.2.1 - RE Accidents - 83% occur during landing and 67% during daytime - 'Flight Crew Procedures'' meaning non-compliance with SOPS was 2 - Top Common incidents/occurrences from MID reports - "Unstable Approach" with Root Cause airport/airline of SOP Compliance and Training.						ning non-compliance with SOPS was present in 59		

Time Frame
15.
-compliance with SOPS was present in 59 accidents See 4.1.2.4.1 and and Training.

Detailed Implementation Plan Template											
Rast No	Safety Enhancement Action	GASP Safety Initiative (ICAO Doc 10004)	Best Practices Supporting GASP Safety Initiative (ICAO Doc 10004, Appendix 2)	Safety Impact	Changeability	Indicator	Priority	Time Frame			
MID-RAST/RGS/2	Develop guidance material and training programs to support creation of action plans by local aerodrome runway safety teams.	Safety Management Collaboration: Promotion of a Multi-Disciplinary Risk Management Approach Safety Information Exchange: Support of Safety Management Implementation	BP-GEN-1 BP-GEN-2 BP-GEN-4 BP-GEN-6 BP-STD-I-4 BP-SIE-I-3	High	Easy	P1	2	Mid-Term			
Safety Enhancement Action (expanded)		Develop guidance material and training programs to support creation of action plans by local aerodrome runway safety teams with immediate emphasis on - identification and publication of aerodrome Hot Spots and timely; and - accurate notification regarding runway conditions and weather by AIS and ATS units.									
Statement of Work		 Establishment of Regional RST Go-Teams Conduct regional Runway Safety Seminars/Workshops Promote Establishment of Local Runway Safety Teams Publish supporting guidance materials for LRSTs 									
Champion Organization		UAE									
Human Resources		ICAO - International Civil Aviation Organisation (MID) UAE General Civil Aviation Authority UAE National Runway Safety Team									
Financial Resources											
Relation with Current Aviation Community Initiative		ICAO Runway Safety Program and RST Handbook ICAO/IATA Runway Excursion Risk Reduction Toolkit FSF Approach and Landing Accident Reduction (ALAR) Toolkit (version June 2010) FSF Runway Safety Initiative (RSI) - "Reducing the Risk of Runway Excursions" FSF Operators Guide to Human Factors in Aviation (FSF European Advisory Committee) FSF Annual Flight Safety Conference (most recent in September 2012) European Action Plan for the Prevention of Runway Excursions European Action Plan for the Prevention of Runway Incursions Airbus - Safety Library - Flight Operations Briefing Notes - Approach Techniques									

Rast No	Safety Enhancement Action	GASP Safety Initiative (ICAO Doc 10004)	Best Practices Supporting GASP Safety Initiative (ICAO Doc 10004, Appendix 2)		Changeability	Indicator	Priority	Time Frame		
Performance Goal		Reduce relative number of runway excursions. MID-Regional Safety Strategy: Reduce Runway Excursions related accidents by 50% by the end of 2017. MID-Regional Safety Strategy: Reduce Runway Incursions related accidents by 50% by the end of 2017.								
Indicators		See above/below								
Key Milestones (Deliverables)		 Arrange a Workshop for Regional RST Go-Teams - June 2014 Develop and issue regulatory framework supporting establishment of LRSTs - September 2014 Develop and issue Stop Bar guidance documentation for consideration of LRSTs - April 2014 Develop and issue a model checklist for LRSTs - December 2014 								
Potential Blockers		Availability of required human resources from identified organisations								
Responsible		UAE ICAO - International Civil Aviation Organisation (MID)								
DIP Notes		Noting SEIs from other regions it is worthwhile RSTs consider the following: - Air traffic Control Training - general and scenario based - Review of Aerodrome and ATC Standard Operating Procedures including RT Phraseology and Clearance Procedures - Pilot Training - general and scenario based - Scenario Based Training for Tower Controller - Scenario Based Training for Pilots								
		- Note the various ICAO Global and Regional Runway Safety Initiatives related to Runway Safety and RSTs. IFALPA and CANSO may be training resources (see AP SEIs).								

Detailed Implementation Plan Template										
Rast No	Safety Enhancement Action	GASP Safety Initiative (ICAO Doc 10004)	Best Practices Supporting GASP Safety Initiative (ICAO Doc 10004, Appendix 2)	Safety Impact	Changeability	Indicator	Priority			
MID-RAST/RGS/3	Focus on Aerodrome Infrastructure and Maintenance Management with priority given to the following: - Promote /monitor Implementation RESA including other means such as arresting systems; - Regulation, guidance and specific training in relation to maintaining aerodrome runway/taxiway related markings; and - Regulation, guidance and specific training in relation to maintaining runways in accordance with Annex 14	Safety Management Standardisation: Consistent Implementation of Safety Management Systems Safety Oversight Standardisation: Consistent Implementation of International Standards Compliance with National Regulations and Adoption of Industry Best Practices	BP-STD-S-11 BP-STD-I-2 BP-STD-I-4	High	Easy	P3	3			
				1						
Safety Enhancement Action (expanded)		Focus on Aerodrome Infrastructure and Maintenance Management with priority given to the following: - Promote /monitor Implementation RESA including other means such as arresting systems; - Regulation, guidance and specific training in relation to maintaining aerodrome runway/taxiway related markings; and - Regulation, guidance and specific training in relation to maintaining runways in accordance with Annex 14								
Statement of Work		 Conduct a MID-Regional Runway Safety Seminar Support aerodrome certification in the MID-Region Develop and issue guidance material on relevant oversight activities 								
Champion Organization		UAE								
Human Resources		ICAO - International Civil Aviation Organisation (MID) UAE General Civil Aviation Authority								
Financial Resources										
Relation with Current Aviation Community Initiative		To be completed								
Performance Goal		To be completed								

Time Frame

Long Term

Rast No	Safety Enhancement Action	GASP Safety Initiative (ICAO Doc 10004)	Best Practices Supporting GASP Safety Initiative (ICAO Doc 10004, Appendix 2)	Safety Impact	Changeability	Indicator	Priority			
Indicators		See above/below								
Key Milestones (Deliverables)		 Conduct a MID-Regional Runway Safety Seminar - June 2014 Arrange a regional aerodrome certification workshop - June 2014 Develop MID-Region aerodrome certification toolkit for States including core items of Certification Documentation, Safety Management Systems, I Hazard Control & Habitat Management, Apron Management, Aerodrome Ground Lighting, Aerodrome Safeguarding, Runway/Taxiway Incursion Preve Movement Areas - January 2015 Develop and issue guidance material on periodic surveillance audits of aerodrome infrastructure and maintenance - April 2015 Develop and issue guidance material on proactive oversight of aerodrome infrastructure development - June 2015 								
Potential Blockers		Availability of required human resources from identified organisations								
Responsible		 UAE ICAO - International Civil Aviation Organisation (MID) 								
DIP Notes		DIP will include establishment of supporting regulation and guidance material. Note this will include assessment of physical space as well as technolo amendment (arresting systems). This SEI will not prevent runway excursions but reduce the consequences of such events. Note process of assessing surface condition and reporting through ATS to flight crew. Adhere to ICAO standard phraseology regarding condition (upd reports vetted through ATC based on Aerodrome reporting information and meteorological analysis - and not only repetition of report from previous Note EASA maybe working with APAC to develop of supporting survey format. DIP will include development of national regulation, guidance materia Note additional SARPs in the recently proposed amendment to Annex 14 (November 2012). May include development of necessary publications including national regulation based on ICAO SARPS and guidance material regarding inspection re national or local training and safety awareness initiatives.								
				-END-						



ns, Physical Characteristics, Runway Surface Friction, Wildlife revention, Aerodrome Infrastructure Projects and Runway &

ologies adopted into Annex 14 in November 2012 proposed

updated in proposed November 2012 amendments). Ensure bus aircraft.

rials and training/awareness initiatives.

n regimes and surface assessments (i.e. friction) - as well as