NCLB-Aerodrome Certification Workshop/Training
(Egypt, Cairo, 1-5 October 2017)

Delivering Safety assessment/Aeronautical Training Case Study

Outline

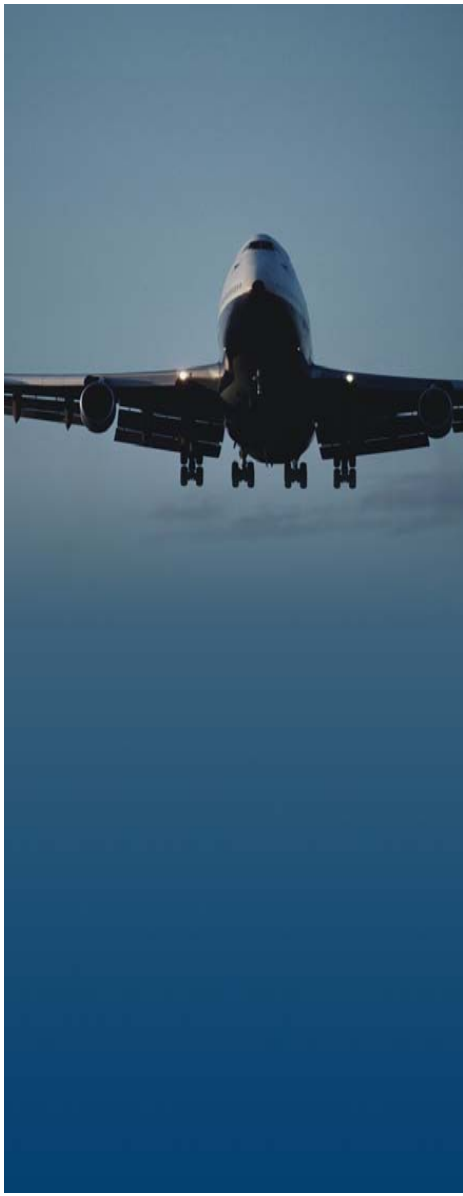
- **Who we are?**
- **Case study**

We are here since1932

Global and Regional position: Global Aviation Training (GAT) Office /ICAO trainair plus full member towards regional training center of excellence (RTCE)

Active participation: Member of ICAO GAT Steering Committee

Training protocols recently signed: UGHANDA-ANGOLA-TOGO-IRAQ



The Case

- 5.3.24.4 **Recommendation.—** *The average illuminance should be at least the following:*
- *Aircraft stand:*
- *— horizontal illuminance — 20 lux with a uniformity ratio (average to minimum) of not more than 4 to 1; and*
- *— vertical illuminance — 20 lux at a height of 2 m above the apron in relevant directions.*

- **Subject Of Study: Apron Flood Lights Less Than 20 Lux**

- **Deviated with ANNEX 14 V1 (**Seventh Edition, July 2016**) (Chapter 5) Item 5.3.24.4**

Doc 9981
INTERNATIONAL CIVIL AVIATION ORGANIZATION
Aerodromes First Edition, 2015Attachment B to Chapter 3 — Safety assessment methodologies for aerodromes

3.4.1.1 The primary objective of a safety assessment is to assess the impact of a safety concern such as a design

change or deviation in operational procedures at an existing aerodrome.

3.4.1.2 Such a safety concern can often impact multiple stakeholders; therefore, safety assessments often need to

be carried out in a cross-organizational manner, involving experts from all the involved stakeholders. Prior to the

assessment, a preliminary identification of the required tasks and the organizations to be involved in the process is

conducted.

3.4.1.3 A safety assessment is initially composed of four basic steps:

a) definition of a safety concern and identification of the regulatory compliance;

b) hazard identification and analysis;

c) risk assessment and development of mitigation measures; and

d) development of an implementation plan for the mitigation measures and conclusion of the assessment.

Definition of a safety concern and identification of the regulatory compliance

1.3.2 From 2008 to 2014 xxxx International Airport had Exemption from CAA about LUX at Apron 4&5.

Electric department at xxxx Airport increase LUX at Apron 4 by install weight beam intensity lamps at the higher section of all flood light with specific angles and comply with Egyptian Civil Aviation Regulations and finished the Exemption about Apron 4.

1.3.3 From 2014 until now xxxx International Airport had Exemption from CAA about LUX at the back stands of Apron 5.

Definition of a safety concern and identification of the regulatory compliance

2.3.1 Item 139.323 (W) Apron floodlighting:

(See also .323(o)(1) and .323(p)(1))

(1) Application: Apron floodlighting should be provided on an apron, and on a designated isolated aircraft parking position intended to be used at night.

Note 1: The designation of an isolated aircraft parking position is specified in .313(b).

Note 2: Guidance on apron floodlighting is given in AC 139-12.

(2) Location: Apron floodlights should be located so as to provide adequate illumination on all apron service areas, with a minimum of glare to pilots of aircraft in flight and on the ground, aerodrome and apron controllers, and personnel on the apron. The arrangement and aiming of floodlights should be such that an aircraft stand receives light from two or more directions to minimize shadows.

(3) Characteristics: The spectral distribution of apron floodlights shall be such that the colors used for aircraft marking connected with routine servicing, and for surface and obstacle marking, can be correctly identified.

(4) The average luminance should be at least the following:

(i) Aircraft stand:

(A) Horizontal luminance: 20 lux with a uniformity ratio (average to minimum) of not more than 4 to 1; and

(B) Vertical luminance: 20 lux at a height of 2 m above the apron in relevant directions.

(ii) Other apron areas:

(A) Horizontal luminance: 50 per cent of the average luminance on the aircraft stands with a uniformity ratio (average to minimum) of not more than 4 to 1.

1.2 Aim of the Study:

The aim of the study is to obtain Safe Operation at Apron (5) Stands No (41: 46) For Apron flood lighting luminance Less Than 20 LUX

Ref:

- ANNIX14 Chapter (5) item 5.3.2.3
- ECAR. 139 .323 w item 4
- EAC 139 – 12
- ACM 4-6-2ج

Scope and Applicability

1 .The following sections present, aeronautical study, a general methodology to conduct safety assessments on an aerodrome.

Additional tools and particularly appropriate checklists, and can help identify hazards, assess safety risks and eliminate or mitigate those risks when necessary.

2. The suitability of the mitigation proposed and the need for alternative measures, operational procedures or operating restrictions for the specific operations concerned should be comprehensively evaluated.

3. The safety assessment process addresses the impact of a safety concern, including a change or deviation, on the safety of operations at the aerodrome and takes into consideration the aerodrome's capacity and the efficiency of operations, as necessary.

BASIC CONSIDERATIONS

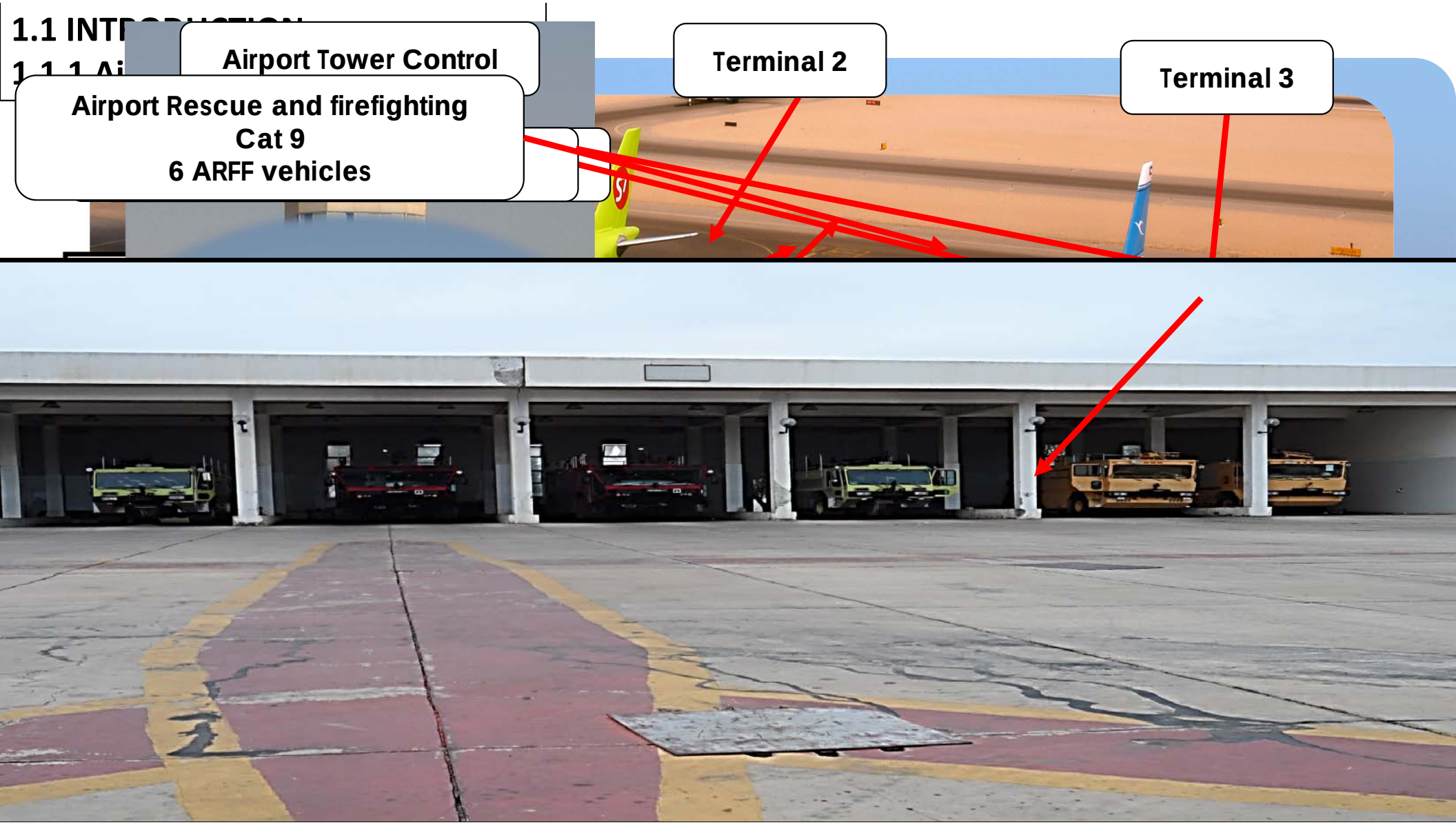
xxxx International Airport safety assessment is an element of the risk management process of an SMS that is used to assess safety concerns arising from, the back stands from Apron (5) flood lighting luminance, deviations from standards and applicable regulations, identified changes at an aerodrome specified in 2.4.4, or when any other safety concerns arise.

All relative stakeholders involved in the safety assessment process will be conducted to ensure compatibility of the final solutions.

System description is the begining

1.1 INTR

1.1.1 Ai



Airport operations :

the airport of Sharm el-Sheikh as a whole to 4300 passengers / hour.

This aerodrome is used for passengers and receives aircraft of code 4E and the largest type of aircrafts can land or take off from this aerodrome is B747-400. Aircraft operations were 64336 and the number of annual passengers was 8300000 Pax. in 2010. It is largely tourist destination with some national traffic being handled at the aerodrome, mainly use civilian aerodrome 24 hours' operation.

xxxx International Airport safety assessment considers the impact of the safety concern on all relevant factors determined to be safety-significant.

The list below provides a number of items that may need to be considered when conducting a safety assessment.

a) Apron layout, including apron configurations and capabilities

b) Types of aircraft, and their dimensions and performance characteristics, intended to operate at the aerodrome.

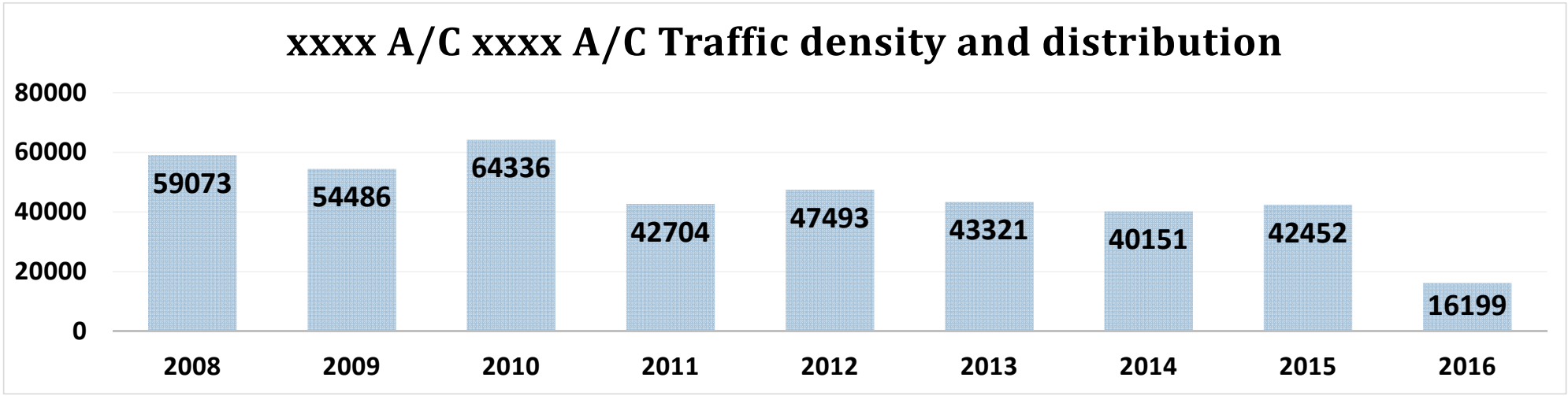
Stand number	Group B
2,3,4,5 Wing span less than 24m	L J43,L J35, CL 60 CL 60s , F200,F205, C525, C515,C520,C680, …… etc.

Stand number	Group C > Wing span < 36 m 24m
2A,3A,14 , 15 , 16 , 17 , 18 , 19 , 20, 21 , 22 , 23 , 24 ,25 Max A/C length 44.5 m	B737 , B727 , A320 , A321 , DC3 , DC9 , TU134 , MD80 , MD81 , MD82 , … etc.
Stand number 13 wing span less than 32 m	E 145 , E175 ,E 190 , E195

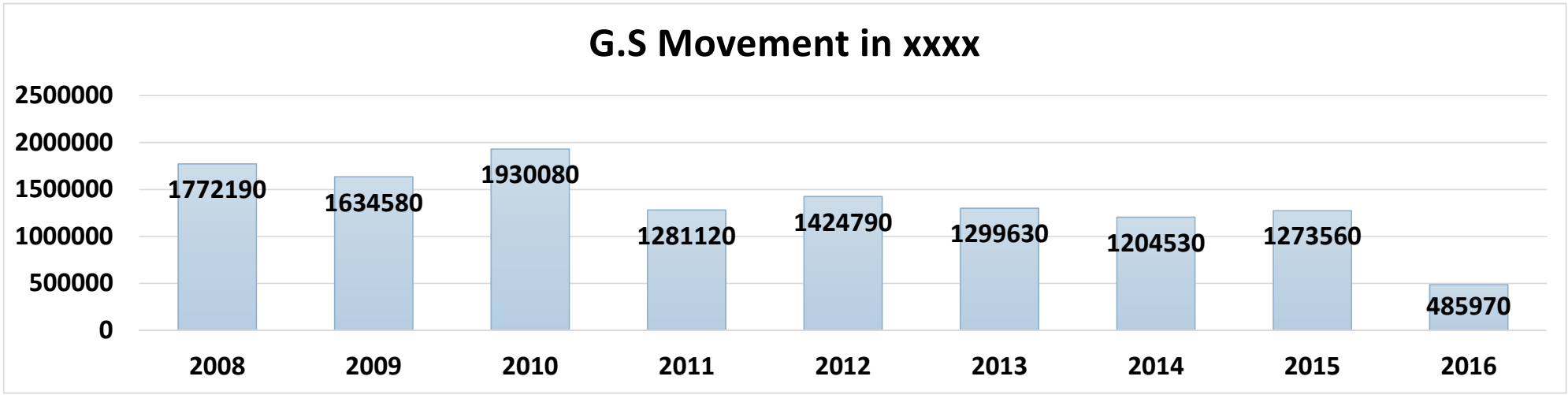
Stand number	Group D > Wing span < 52 m 36 m
32 , 33 , 34 , 35 , 36 , 37 , 38 , 39 , 40 , 41 ,42 (stand number 6 , 7 , 8 , 9 , 10 , 11 , 12 Max wing span 48m)	B757 , B767 , A300 , A600 , A 310 , IL 86 , IL76 , IL 62 , TU 154 , TU 214 , TU 204 , DC 8 , VC 10 , L 1011 …… etc.

Stand number	Group E > Wing span < 65 m 52m
26 , 27 , 28 , 29 , 30 ,31 , 43 , 44,45,46	B747 , B777 , A330 , A340 , MD 11 …… etc.

c) Traffic density and distribution.



d) Aerodrome ground services and alert functions.



Safety Assessment Process

2.1 Introduction

2.1.1 The primary objective of a safety assessment is to assess the impact of Apron flood lighting luminance Less Than 20 LUX at Apron (5) Stands No (41: 46) CAR. 139 .323 w item 4 AC 139-12.

2.1.2 xxx international Airport is a certified aerodrome that implements an SMS acceptable by CAA State that, as a minimum.

a) Identifies safety hazards;

b) Ensures that remedial action necessary to maintain safety is implemented;

c) Provides for continuous monitoring and regular assessment of the achieved safety; and

d) Aims to make continuous improvement to the overall safety of the aerodrome.

2.2Hazard identification and risk management:

Four sessions have been held for the purpose of hazard identifications associated with the implementation of technical solution(mobile light) .

Bow tie techniques has been used as a tool of hazard identification and management .and hazard register is the end result for this case .

The result has been subject to risk analysis and management including the development of safety performance monitoring for each hazard see item 4.8

Concerned department has been informed by the change safety responsibilities has been allocated.

Hazard identification

3.1 Hazards related to infrastructure, and operational procedures are initially identified using methods such as CAA inspection remarks (expert opinion), brain-storming session's industry knowledge, bow-tie methods, 5m methods, experience and operational judgement.

a) Accident causal factors and critical events based on a simple causal analysis of available accident and incident databases;

b) Events that may have occurred in similar circumstances or that are subsequent to the resolution of a similar safety concern; and

c) potential new hazards that may emerge during or after implementation of the planned changes.

3.2 Following the previous steps, all potential outcomes or consequences for each identified hazard are identified:

1- Accident A/C X A/C. **2- Accident A/C X G.S.**

3- Accident G.S X G.S. **4- A/C Engine FOD Suction.**

3.3 The appropriate safety objective for each type of hazard should be defined and detailed. This can be done through:

a) Reference to the acceptance of a similar system at apron (4) (temporary solution) and,

b) Reference to the safety performance of the existing system;

c) Application of explicit risk levels.

3.4 Safety objectives are specified in quantitative terms (e.g. identification of a numerical probability).

1. SRM Definition

- **A systematic process to account for the availability and adequacy of defences pertaining to a given combination (s) of related Hazard, Top Event and Consequence.**

- **Safety Risk Mitigation (SRM) is also known as:**
  - **Safety Assessment (SA)**
  - **Safety Risk Assessment (SRA)**
  - **Safety Risk Management (SRM)**
  - **Hazard Identification & Risk Assessment (HIRA)**
  - **Hazard Identification & Risk Mitigation (HIRM) , etc**

2. SMS and SSP SRM expectation (Annex 19)

SMS:

- ***Hazard Identification (SMS element 2.1)***
- ***Safety risk assessment and mitigation (SMS element 2.2)***

SSP:

- ***State safety risk management (SSP component number 2)***
- ***Each State shall develop and maintain a process that ensures the identification and analysis of hazards and the assessment of safety risks associated with those hazards*** **(SMP's proposed A19 SARP, Nov 2014)**

3. SRM Capability and Competency

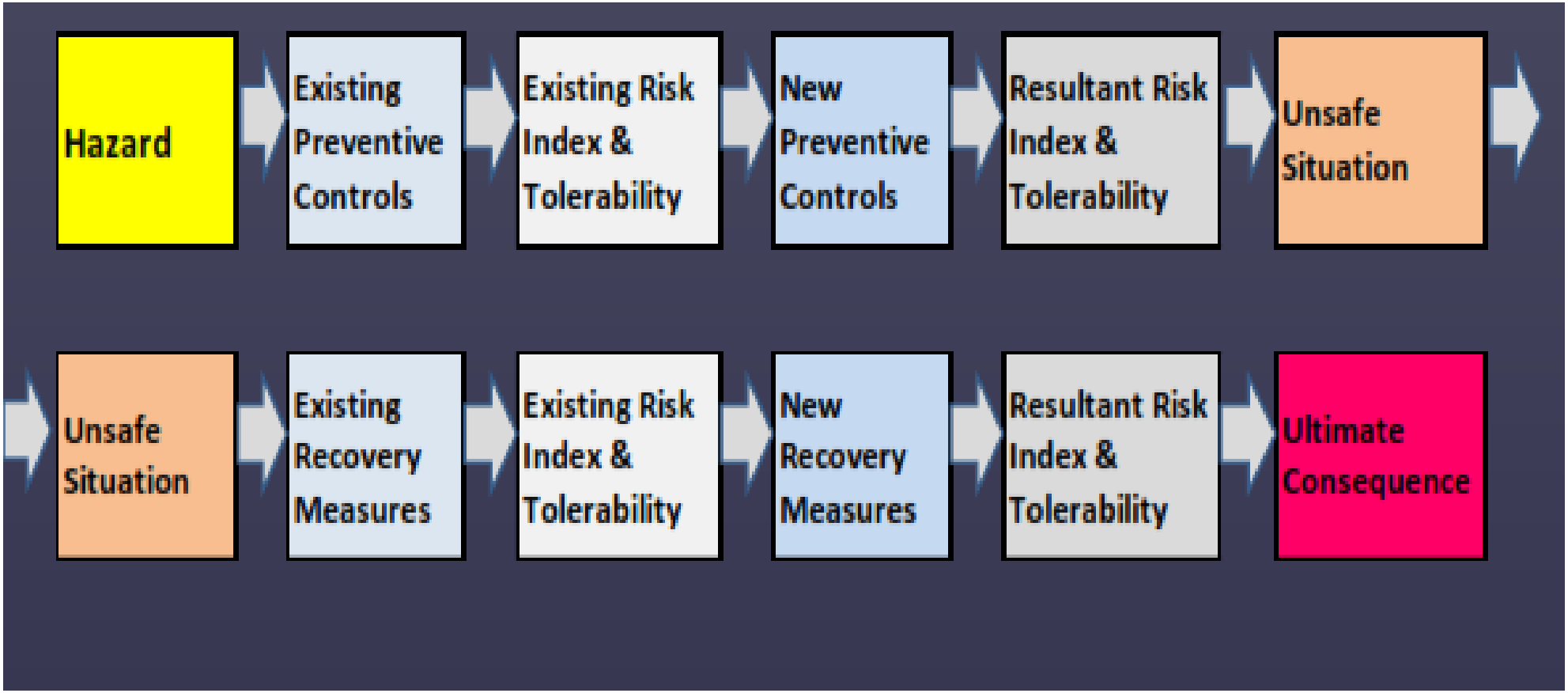
- **SRM is the fundamental purpose of SMS implementation**
- **CAA SRM oversight, collaboration and performance expected SRM methodology and tooling required**

No proper SRM tooling or methodology = No SRM competency

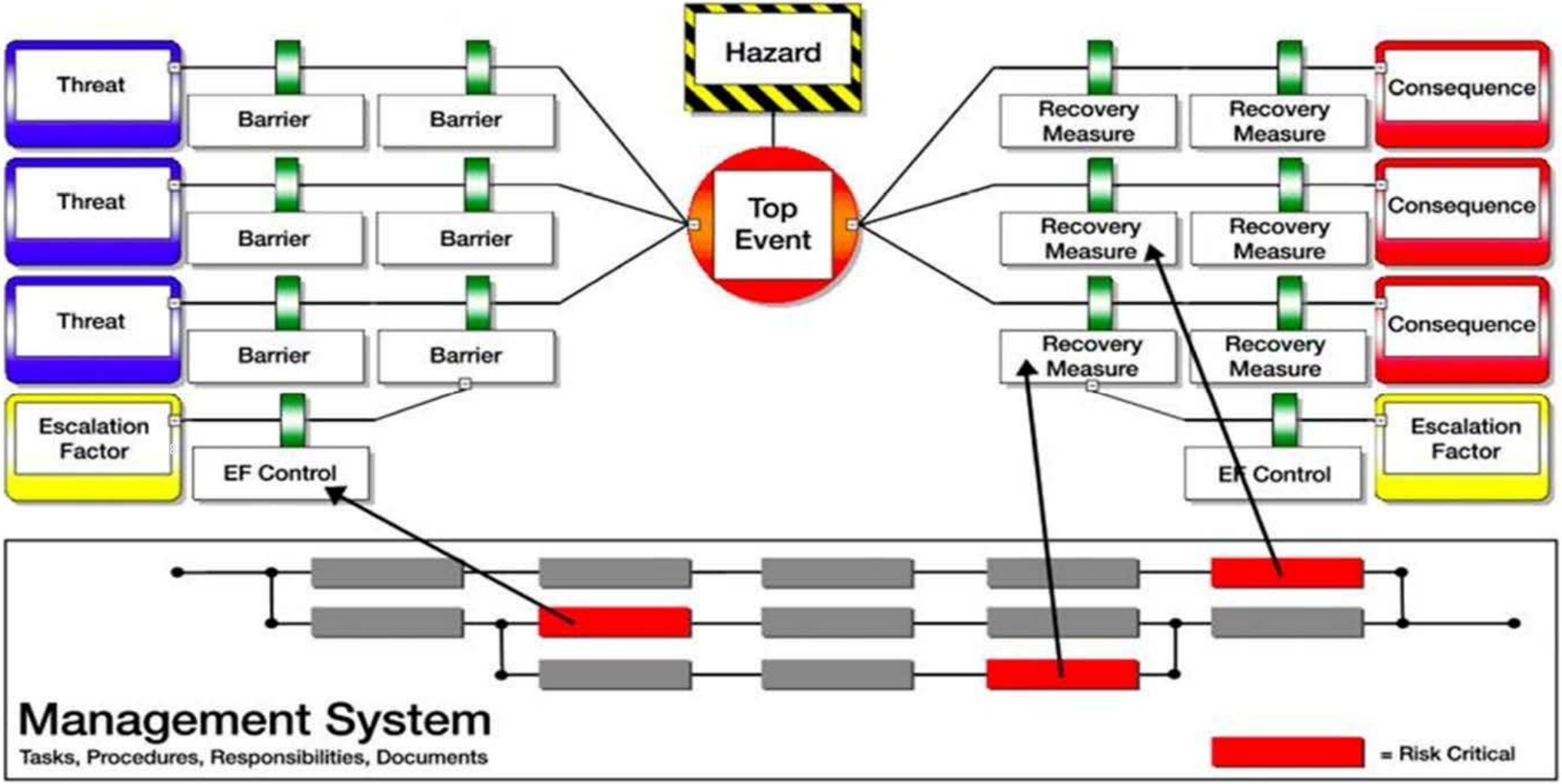
4. SRM Related Terminologies

- *Hazard*
- *Threat*
- *Unsafe situation*
- *Unsafe Event*
- *Top Event*
- *Consequence*
- *Barrier / Defence*
- *Preventive Control*
- *Recovery Measure*
- *Escalation Factor*
- *Escalation Control*
- *Severity*
- *Likelihood*
- *Risk Index*
- *Inherent Risk Index*
- *Resultant Risk Index*
- *Tolerability*
- *ALARP*

5. SRM Protocol – Basic Concept



5. SRM Protocol – BowTie Concept



6. SRM Tools

- Excel Template (Doc 9859, C2-App2)

- Software (Bow-Tie)

Basic Excel SRM Template (SMM Doc 9859, C2-App2)

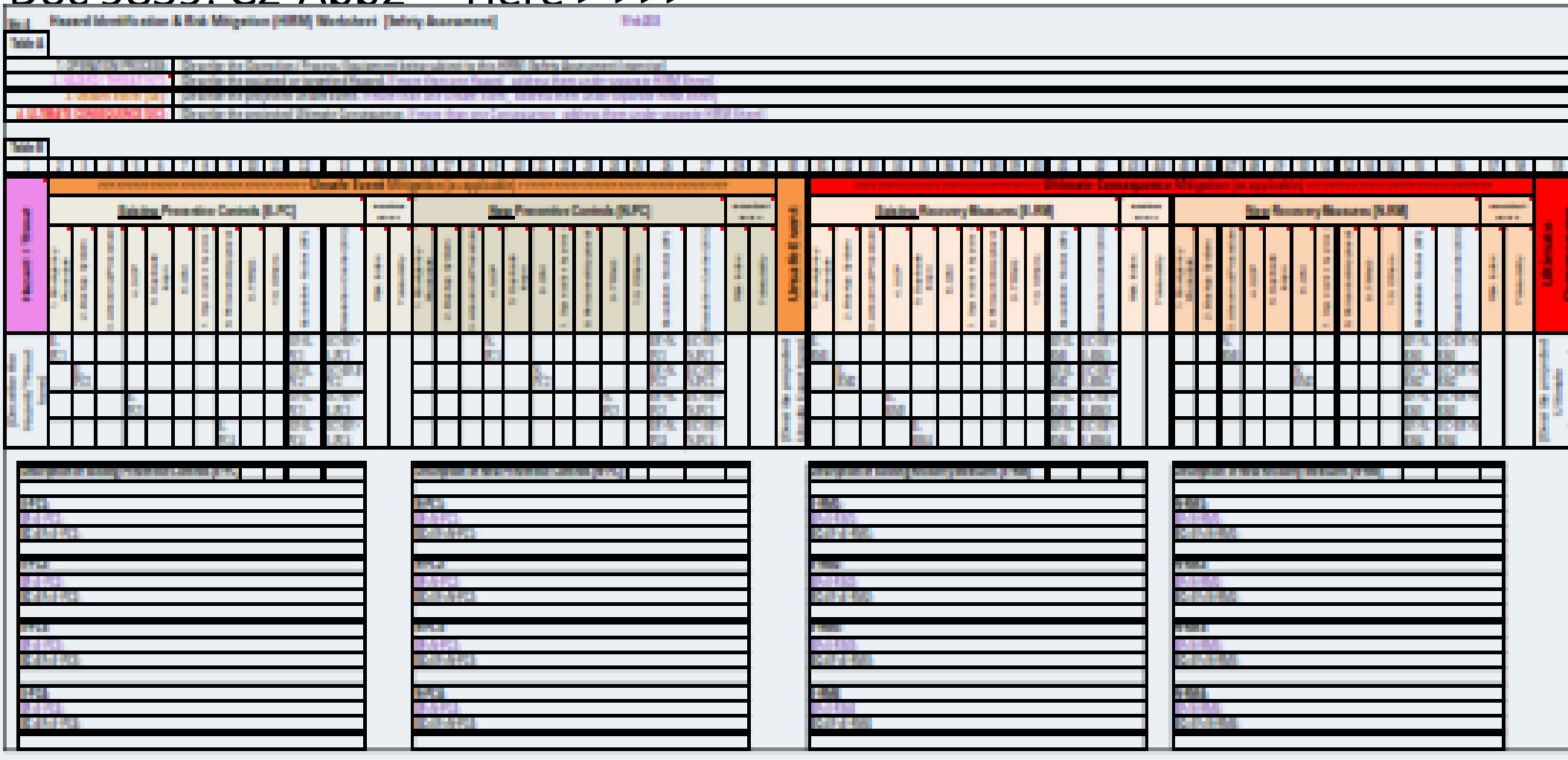
Operation/process:	Describe the process/operation/equipment/system being subjected to this HIRM exercise.
Hazard (H):	If there is more than one hazard to the operation/process, use a separate worksheet to address each hazard.
Unsafe event (UE):	If there is more than one UE to the hazard, use a separate worksheet to address each UE-UC combination.
Ultimate consequence (UC):	If there is more than one UC to the hazard, use a separate worksheet to address each UC.

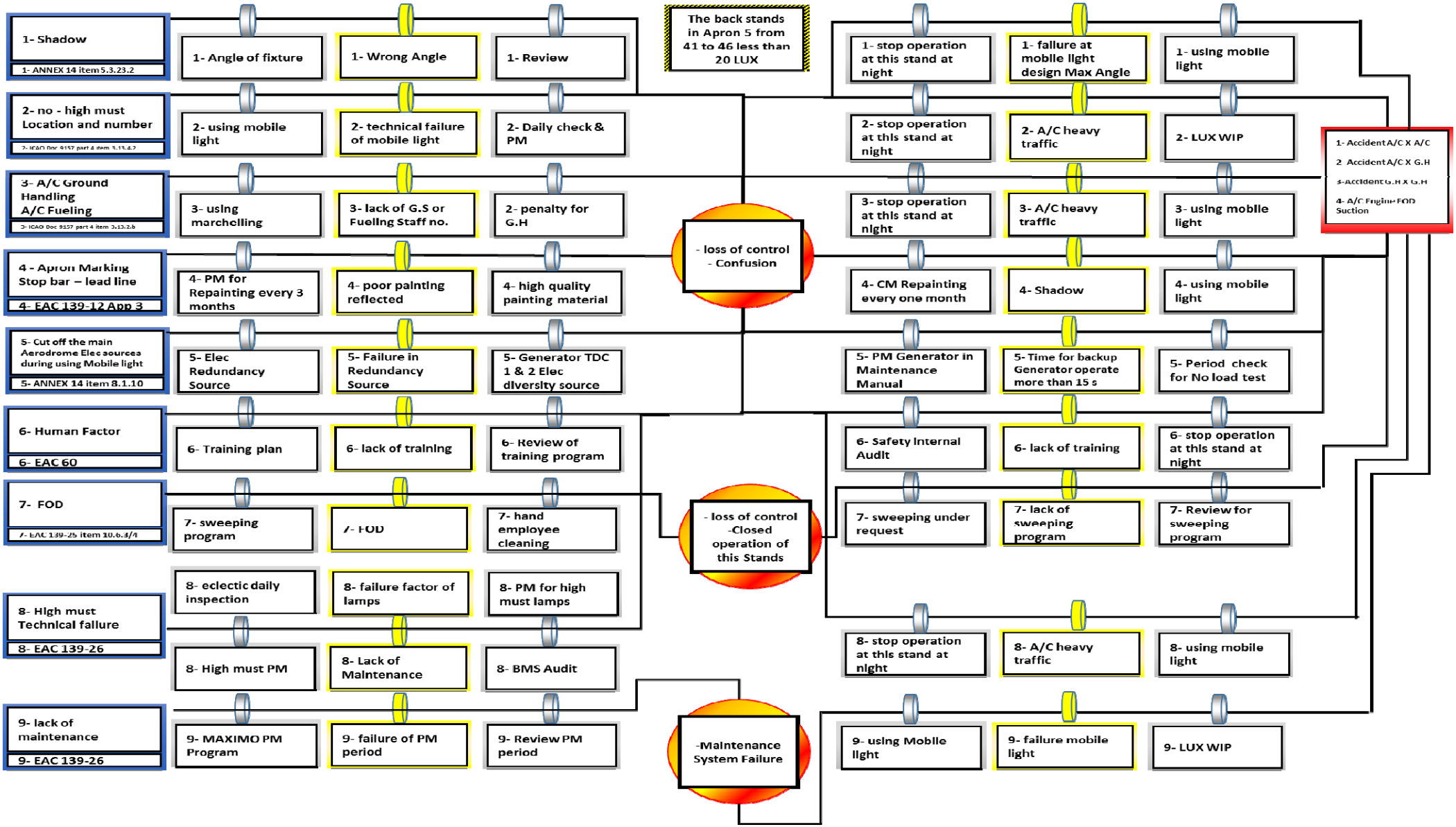
	Current risk tolerability (taking into consideration any existing PC/RM/EC)				***Resultant risk index and tolerability (taking into consideration any new PC/RM/EC)***		
	Severity	**Likelihood**	**Tolerability**		**Severity**	**Likelihood**	**Tolerability**
Unsafe event							
Ultimate consequence							

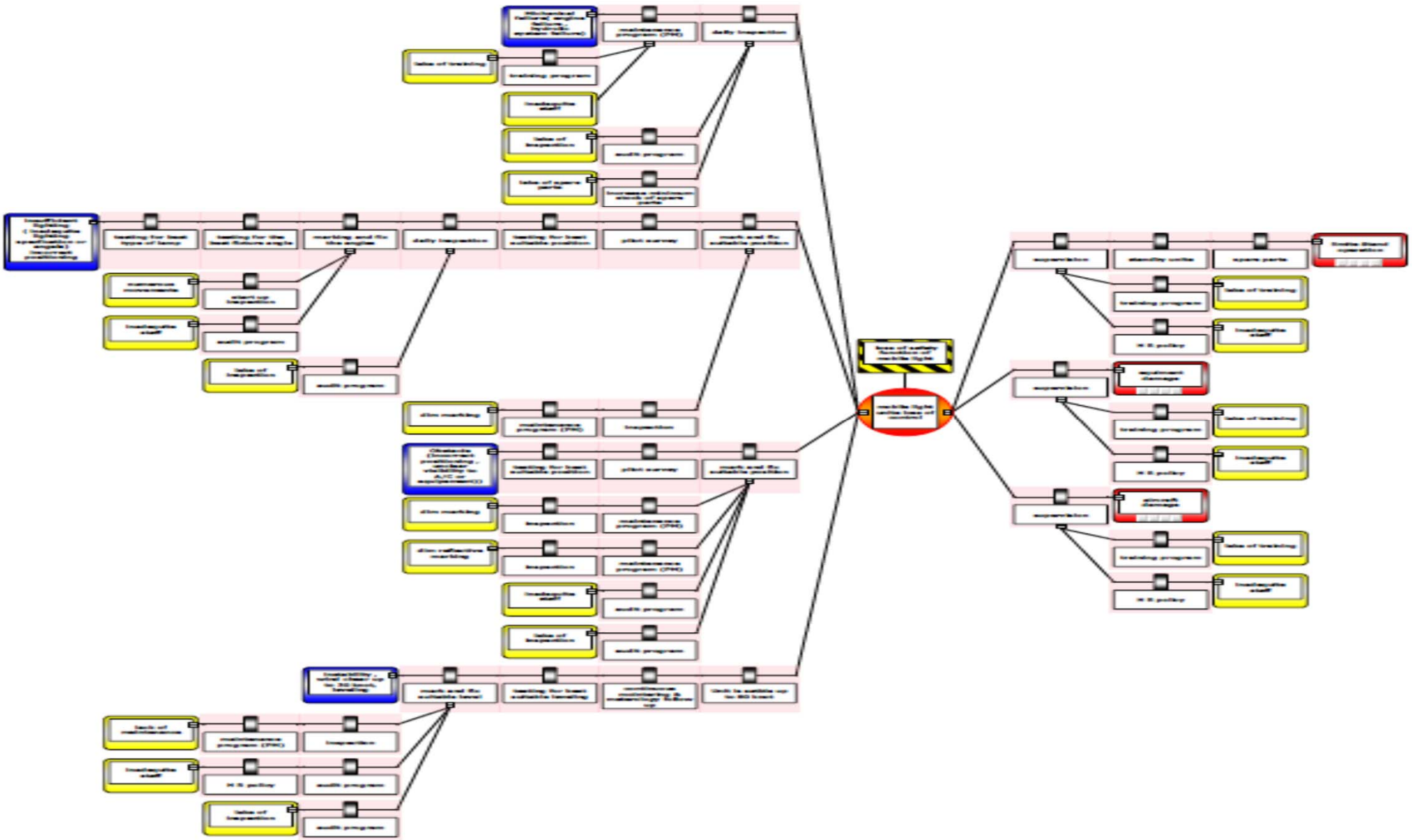
Hazard (H)	***PC***	***EF***	***EC***		***RM***	***EF***	***EC***	
H	PC1 (Existing)	EF (Existing)	EC1 (Existing)	UE	RM1	EF (to RM1)	EC (to EF)	UC
			EC2 (New)					
	PC2 (Existing)	EF1 (New)	EC (New)		RM2	EF (to RM2)	EC (to EF)	
	PC3 (New)	EF (New)	EC (New)		RM3 (New)	EF (to RM3)	EC (to EF)	

Enhanced version of Excel SRM Template

Doc 9859, C2-App2 Here > >>>




The back stands in Apron 5 from 41 to 46 less than 20 LUX
- loss of control
- Confusion
- loss of control
-Closed operation of this Stands
-Maintenance System Failure
1- Shadow
1- ANNEX 14 item 5.3.23.2
2- no - high must Location and number
3- A/C Ground Handling A/C Fueling
3- ICAO Doc 9157 part 4 item 3.13.2.b
4 - Apron Marking Stop bar – lead line
4- EAC 139-12 App 3
5- Cut off the main Aerodrome Elec sources during using Mobile light
5- ANNEX 14 item 8.1.10
6- Human Factor
6- EAC 60
7- FOD
7- EAC 139-25 item 10.6.3/4
8- High must Technical fallure
8- EAC 139-26
9- lack of maintenance
9- EAC 139-26
1- Angle of fixture
1- Wrong Angle
1- Review
2- using mobile light
2- technical failure of mobile light
2- Daily check & PM
3- using marchelling
3- lack of G.S or Fueling Staff no.
2- penalty for G.H
4- PM for Repainting every 3 months
4- poor painting reflected
4- high quality painting material
5- Elec Redundancy Source
5- Failure in Redundancy Source
5- Generator TDC 1 & 2 Elec diversity source
6- Training plan
6- lack of training
6- Review of training program
7- sweeping program
7- FOD
7- hand employee cleaning
8- eclectic daily inspection
8- failure factor of lamps
8- PM for high must lamps
8- High must PM
8- Lack of Maintenance
8- BMS Audit
9- MAXIMO PM Program
9- failure of PM period
9- Review PM period
1- stop operation at this stand at night
1- fallure at mobile light design Max Angle
1- using mobile light
2- stop operation at this stand at night
2- A/C heavy traffic
2- LUX WIP
3- stop operation at this stand at night
3- A/C heavy traffic
3- using mobile light
4- CM Repainting every one month
4- Shadow
4- using mobile light
5- PM Generator in Maintenance Manual
5- Time for backup Generator operate more than 15 s
5- Period check for No load test
6- Safety Internal Audit
6- lack of training
6- stop operation at this stand at night
7- sweeping under request
7- lack of sweeping program
7- Review for sweeping program
8- stop operation at this stand at night
8- A/C heavy traffic
8- using mobile light
9- using Mobile light
9- failure mobile light
9- LUX WIP
1- Accident A/C X A/C
2 Accident A/C X G.H
3-Accident G.H X G.H
4- A/C Engine FOD Suction



Risk assessment and development of mitigation measures

4.1 The level of risk of each identified potential consequence is estimated by conducting a risk assessment.

This risk assessment will determine the severity of a consequence (effect on the safety of the considered operations) and the probability of the consequence occurring and will be based on experience as well as on any available data

4.2 Understanding the risks is the basis for the development of mitigation measures, operational procedures and operating restrictions that might be needed to ensure safe aerodrome operations.

4.3 The method for risk evaluation is strongly dependent on the nature of the hazards. The risk itself is evaluated by combining the two values for severity of its consequences and probability of occurrence.

4.4 Once each hazard has been identified and analyzed in terms of causes, and assessed for severity and probability of its occurrence, it must be ascertained that all associated risks are appropriately managed. An initial identification of existing mitigation measures must be conducted prior to the development of any additional measures.

4.5 All Risk mitigation measures, whether currently being applied or still under development, are evaluated for the effectiveness of their risk management capabilities.

4.6 In some cases, a quantitative approach may be possible, and numerical safety objectives can be used. In other instances such as changes to the operational environment or procedures, a qualitative analysis may be more relevant.

4.7 States should provide suitable guidance on risk assessment models for aerodrome operators.

4.8 In some cases, the result of the risk assessment may be that the safety objectives will be met without any additional specific mitigation measures.

Sharm El- Sheikh Int. Airport Classification - Risk Assessment

Risk Probability		Risk Severity				
		Catastrophic	Hazardous	Major	Minor	Negligible
		A	B	C	D	E
Frequent	5	5A	5B	5C	5D	5E
Occasional	4	4A	4B	4C	4D	4E
Remote	3	3A	3B	3C	3D	3E
Improbable	2	2A	2B	2C	2D	2E
Extremely Improbable	1	1A	1B	1C	1D	1E

Risk index range	Description	Recommended action
5A , 5B , 4A	Very High risk	Cease or cut back operation promptly if necessary. Need immediately stop all A/C operations
5C, 4B, 3A, 5D, 3B , 2A, 4C	High risk	Perform priority risk mitigation to ensure that additional or enhanced preventive controls are put in place to bring down the risk index to the moderate or low range
, 5E, 4D , 4E ,3C, 3D , 2B , 2C , 1A , 1B	Moderate risk	Schedule performance of a safety assessment to bring down the risk index to the low range if viable.
3E , 2D , 2E , 1C, 1D ,	Low risk	Acceptable as is. further risk mitigation required.
1E	Negligible risk	Acceptable as is. No further risk mitigation required.

Sharm Elsheikh Int. Airport Safety Risk Severity Criteria

Severity		Catastrophic	Hazardous	Major	Minor	Negligible
		A	B	C	D	E
People	P	Mass casualty incident	Multiple injuries or fatalities	Injury with transport to medical facility	Injury with medical response	No to Slight injury
Assets	A	> 1 Pillion $	100 million $ to 1 pillion $	1 million $ to 100 million $	50000 to 1 million $	< 50000$
Environment	E	reportable non containable significant volume of hazardous product / material	Reportable containable moderate volume of hazardous product / material	Reportable non containable minimal volume of hazardous material	Non reportable containable minimal volume of hazardous material	No Impact
Reputation	R	Wide spread international media coverage and reduction of air travel indefinitely	Local and national media coverage for more than 48 hours	Local media coverage	Minimal media inquiries	No Impact
Continuity of operation		wide spread regional disruption to normal operations (recovery time =indefinite)	Severe disruption to normal operations (recovery time >48 hours)	Major disruption to normal operations (recovery time = 24 to 48 hours)	Minor disruption to normal operations (recovery time = immediate)	No Impact
Aircraft	A\C	Complete loss of A/C	Severe damage to A/C	Major damage to A/C	Minimal damage to A/C	No damage to A/C

Probability Like hood Per Movement

		frequant					Probable					Remote					Extremly Remote					Extermely improbable	
		5					4					3					2					1	
Aircraft	Global	x >		1.00E-03			1.00E-03	> X >		1.00E-05		1.00E-05	> X >		1.00E-07		1.00E-07	> X >		1.00E-09		x <	1.00E-09
	Regional	x >		1.00E-04			1.00E-04	> X >		1.00E-05		1.00E-05	> X >		1.00E-06		1.00E-06	> X >		1.00E-07		x <	1.00E-07
	local	x >		1.00E-03			1.00E-03	> X >		1.00E-04		1.00E-04	> X >		1.00E-05		1.00E-05	> X >		1.00E-06		x <	1.00E-06

Note

If Numper Of movements Equal Or More Than 130 Movements \ Day

Probability Likehood Per Period

frequant	occurs More Than once every	Weak
Probable	occurs More Than once every	75 Days
Remote	occurs More Than once every	2 Years
Extremly Remote	occurs More Than once every	From 2 Years To 5 Years
Extermely improbable	occurs More Than once every	More than 5 years

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
HAZARD ID	Hazard Description	Causes	System State	Existing Control(s)	Existing Control Justification	Effects	Severity	Severity Rationale	Likelihood	Likelihood Rationale	Initial Risk	Risk Controls	Organization Responsible for Implementing Risk Control	Predicted Residual Risk	Safety performance Targets
back stands at Apron 5 less than 20 LUX	low light intensity doesn't comply with lux standard at stands no (,41,42,43,44,45,46)	Halogen lambs	Bad apron design and high mast arrangement	**Angle of fixture**	stop operation at this stand at night	**1- Accident A/C X A/C**	A	A/C big damage &	1	zero acc. about this year	1A	using Mobil light during the night operation with special procedure+ awareness training	apron operation	1C	safe operation at standing from 41 to 46 during night
		Large and wide apron area		**using mobile light**		**2- Accident A/C X G.H**	C	major damaged to A/C & injury with transporter s	3	2 serious incident occurrence at one year	3C		electric dep	2D	
				using marshaling		**3- Accident G.H X G.H**	D	injury with medical response	1	zero acc. about this year	1D		safety department	1E	
				PM for Repainting every 3 months	CM Repainting every one month	**4- A/C Engine FOD Suction**	C	major damaged to A/C	1	zero acc. about this year	1C		ATC	1D	
				Elec Redundancy Source	PM Generator in Maintenance Manual							lux WIP	engineering & safety & ECAA		
				Training plan	Safety internal Audit										
				sweeping program	sweeping under request										
				electric daily inspection	stop operation at this stand at night										
				High must PM	**using Mobile light**										
				MAXIMO PM Program											

Development of an implementation plan and conclusion of the assessment

- 5.1 The last phase of the safety assessment process is the development of a plan for the implementation of the identified mitigation measures.
- 5.2 The implementation plan includes time frames, responsibilities for mitigation measures as well as control measures that may be defined and implemented to monitor the effectiveness of the mitigation measures.
- 5.3 To ensure the safety operations in the back stands Apron 5 by two solutions:
- 5.3.a - Short term solution to operate stands from 41to 46 at night by using 2 mobile lights with special safety procedures;

Development of an implementation plan and conclusion of the assessment

No.	Safety Procedures	Responsibility
1	apron operation will determined stand allocation before A/C landing by two hour and inform ATC operation department who will inform each of safety department and electricity department with only stands from 41 to 46 which will be used for A/C standing at night (updating the current .L.O.A).	Apron department
2	Apron department will be supervising locate mobile light about six meters from mention stand between serves road and stand outside envelop for every entering and living of mobile light unit.	Apron department
3	Mobile light unit operation lifting lighting fixture to maximum heights (10m) and facing fixtures in front of stands with the specific angels.	Electric department
4	Safety department will regular review safety procedures of mobile light (putting reflected cones around the unit , reflected marking and obstacle lights) at each mobile light.	Safety department
5	Electric department will measure LUX at A/C position at (Front – middle – rear) which will be for stands from 41 to 46 to ensure that the average luminaries more than or equal 20 LUX .	Electric department
6	Apron management department control all ground handling equipment movement at mentioned stands.	Apron department

7	Apron management department during night operation will lead aircraft to stand from 41 to 46 at night By follow me car briefing will be provided.	Apron department
8	Pilot survey will reflect the effect of mobile light during taxing at taxi A and/or nearest stands (questionnaire will be developed).	Safety – follow me & Agents
9	For more safety the marshaling service will be with 2 marchaller one for marshaling other as wing walker.	follow me & Agents
10	Marking the right position of mobile light to ensure safe and fast operation (done).	Engineering department Safety Follow me
11	For mobile light generator safe operation, a 6 Kg powder extinguisher is applied.	Follow me ARFF
12	Ensure that preventive maintenance must be done for all floodlight at apron 5.	BMS Elec engineering Safety
13	Electric dep. must inspect all floodlight at apron 5 daily and repair any defect.	Elec engineering BMS Safety
14	Mobile light unite will be moved out of apron to its parking area.	Follow me Elec engineering BMS Safety

3.4.5 Development of an implementation plan and conclusion of the assessment

15	Continuous luminous measurements for mentioned stands to get the best operational output.	Elec engineering BMS Safety
16	Full follow all procedure mentioned in risk analysis.	BMS Safety
17	Insure that mobile light generator fuel is sufficient enough for at least 12 hour working.	Elec engineering
18	Don’t start up mobile light generator while aircraft fueling proceed.	Follow me Elec engineering Safety
19	Aerodrome Safety assurance is responsible for reviewing the whole process to ensure that all concerned departments are fully aware with their mission and tasks as well as ensuring the effectiveness and adequacy of all developed safety requirements including the need to further action if the circumstance warrant to meet the overall safety objectives required to safe operations.	Safety department

5.3.b for long term solution:

Airport will have prepared WIP to increase LUX, about the back stands of Apron 5 and compliance with ANNEX 14

Target date to finalize project by Electric Engineering department DEC 2018.

5.4 Conclusion:

Technical solution has been developed to meet ECAA requirement in ECAR 139 to achieve the safe operation in low lighting intensity stands and increase the aerodrome capacity

5.5 Compliance with AC 139-62

Checklist for Aeronautical Study	Status	Remarks
1. Aim of the study including (a) Address safety concerns, (b) Identify safety measures, and (c) Make reference to Specific SARP in ECAR 139	●yes ○No	Items 1.2 1.3 1.4
2. Consultation with stakeholders, senior management team and divisions/ departments affected;	●yes ○No	1.4
3. The study is approved by a senior executive of the organization	●yes ○No	Control page
4. Background Information on the current situation;	●yes ○No	2.1 2.2
5. Proposed date for complying with the SARPs, if the deviation is due to development of the aerodrome;	●yes ○No	
6. Safety assessment including (a) identification of hazards and consequences and (b) risk management;	●yes ○No	Ch. 2 , Ch3 , Ch4
7. The safety assessment used in the study (E.g. hazard log, risk probability and severity, risk assessment matrix, risk tolerability and risk control/mitigation);	●yes ○No	Ch. 2 Ch. 4
8. Recommendations (including operating procedures/ restrictions or other measures to address safety concern) of the aeronautical study and how the proposed deviation will not pose a drop in the level of safety;	●yes ○No	Item 5.3
9. Estimation of the effectiveness of each recommendation listed in the aeronautical study	●yes ○No	Item 5.3.b
10. Notification procedure including process flow, time frame and the publication used to promulgate the deviation;	●yes ○No	Ch. 5
11. Conclusion of the study;	●yes ○No	Ch. 5
12. Monitoring of the deviation; and	●yes ○No	
13. Notification to DASS once the temporary deviation has been corrected.	●yes	Ch. 5

Contact Us

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Questions?