Galaxy Aerospace
maintenance . repair . overhaul

HAZARD IDENTIFICATION AND RISK MANAGEMENT (HIRM) FORM

1. HIRM REFERENCE NUMBER:	GAM/SMS/H-111(21)
2 AREA/ OPERATION/ EQUIPMENT:	Aircraft Maintenance Operation
3. HAZARD / THREAT [H/T]:	PLPGU Hangar Ipoh as a new Line and Base Maintenance location (new capability).
4. UNSAFE EVENT [UE]:	Difficulty to perform aircraft maintenance as per schedule.
5. ULTIMATE CONSEQUENCE [UC]:	Impact to the company reputation due to exceed the aircraft serviceable target date.

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>>> Unsafe Event Mitigation (as applicable) >>>

Existing Preventive Controls [E-PC] — barriers (1. Backup/ standby system, 2. Regulation/ Requirement, 3. Std Operating Procedure, 4. Insp/ Maint program, 5. GM/ Advisory/ Notification, 6. Training, 7. Others, Escalation Factor [EF], Escalation Control [EC])

Hazard/Threat	Barriers	EF	EC	RI&T
PLPGU Hangar Ipoh as a new Line and Base Maintenance location (new capability)	E-PC1 (Training col)			
	E-PC2 (Regulation)	EF>E-PC2		
	E-PC3 (Regulation)	EF>E-PC3	EC>EF>E-PC3	
	E-PC4 (Std Operating Procedure)	EF>E-PC4	EC>EF>E-PC4	
	E-PC5 (Training)	EF>E-PC5		2C Moderate Risk

New Preventive Controls [N-PC]

Barriers	EF	EC	RI&T
N-PC1	EF>N-PC1		
N-PC2	EF>N-PC2	EC>EF>N-PC2	1C Low Risk

Unsafe Event: Difficulty to perform aircraft maintenance as per schedule.

>>> Ultimate Consequence Mitigation (as applicable) >>>

Existing Recovery Measures [E-RM]

Barriers	EF	EC	RI&T
E-RM1 (Others)			
E-RM2 (Insp/Maint program)			
E-RM3 (Insp/Maint program)			2C Moderate Risk

New Recovery Measures [N-RM]

Barriers	EF	EC	RI&T
N-RM1 (Others)			
N-RM2 (Others)			1C Low Risk

Ultimate Consequence: Impact to the company reputation due to exceed the aircraft serviceable target date.

Description of Existing Preventive Controls [E-PC]

E-PC1: MOC raised as a notification and preparation
EF>E-PC1:
EC>EF>E-PC1:

E-PC2: Manpower required for the operation as manpower list.
EF>E-PC2: Insufficient Qualified personnel for aircraft type.
EC>EF>E-PC2:

E-PC3: Facilities are provided by PGU (hangar, store and office at Ipoh)
EF>E-PC3: To meet the standard of authority and safety requirement
EC>EF>E-PC3: Facility audit / Desktop audit as per MOE 3.1

E-PC4: Adequate and appropriate standard tools, GSE and Maintenance platform as per MOE Part 2.4
EF>E-PC4: The equipment may not meet the standard of authority compliance which lead to be an unsafe working environment
EC>EF>E-PC4: to ensure PGU follow authority requirement.

E-PC5: Mandatory training provided to all maintenance staff as per MOE Part 3.4.5
EF>E-PC5: Required specific training base on aircraft type.
EC>EF>E-PC5:

Description of New Preventive Controls [N-PC]

N-PC1: To updated tools list between PGU and GAM.
EF>N-PC1: Overlook the expiry date or calibration dates
EC>EF>N-PC1:

N-PC2: Appropriate procedure to meet the requirements of "Qualified Personnel" for aircraft type as per MOE Part 3.4.5
EF>N-PC2: Insufficient additional training as required.
EC>EF>N-PC2: Scheduled for the appropriate training and update in training record for monitoring purposes.

N-PC3:
EF>N-PC3:
EC>EF>N-PC3:

N-PC4:
EF>N-PC4:
EC>EF>N-PC4:

N-PC5:
EF>N-PC5:
EC>EF>N-PC5:

Description of Existing Recovery Measures [E-RM]

E-RM1: Conduct biweekly meetings with PGU and follow up any unresolved issues.
EF>E-RM1:
EC>EF>E-RM1:

E-RM2: Monitor and follow up the forecast system as per maintenance schedule.
EF>E-RM2:
EC>EF>E-RM2:

E-RM3: Quality Physical Audit as per MOE Part 3.1.2
EF>E-RM3:
EC>EF>E-RM3:

E-RM4:
EF>E-RM4:
EC>EF>E-RM4

E-RM5:
EF>E-RM5:
EC>EF>E-RM5:

Description of New Recovery Measures [N-RM]

N-RM1: To perform periodically surveillance by Safety & Quality as MOE...
EF>N-RM1:
EC>EF>N-RM1:

N-RM2: Perform verification audit prior the real audit by authority.
EF>N-RM2:
EC>EF>N-RM2:

N-RM3:
EF>N-RM3:
EC>EF>N-RM3:

N-RM4:
EF>N-RM4:
EC>EF>N-RM4:

N-RM5:
EF>N-RM5:
EC>EF>N-RM5:

S-1. Existing Risk Index [Hazard > Unsafe-Event]

A Assessed Existing Severity level of the UE [Wsht 5]: **C**
B Therefore, UE's Optimum No of Barriers (ONB) [Wsht 4A, Table3]: **4**
C Applicable CBSV-Likelihood Table for this severity level [Table 3]: **4 (iii)**

D Assessed BSV of individual Existing PCs [Table 1]:
E-PC1	2
E-PC2	3
E-PC3	4
E-PC4	4
E-PC5	4
E-PC6	0
E-PC7	0
E-PC8	0

E Therefore, CBSV (SUM) of all E-PCs: **17**
F Assess CBSV of ONB (Applicable if E-PCs are more than ONBs): **15**
(Choose barriers with highest BSVs for this ONB-CBSV calculation)
G Existing CBSV of UE (item E or F, whichever is applicable): **15**
H Existing Likelihood of the UE (CBSV-Likelihood Table of item 3): **2**
I Existing Risk Index of the UE [Sht8, RI & Tolerability]: **2C**
J Existing Tolerability of the UE: **Moderate Risk**

S-2. Resultant Risk Index [Hazard > Unsafe-Event]

A Assessed Existing Severity level of the UE [Wsht 5]: **C**
B Therefore, UE's Optimum No of Barriers (ONB) [Table3]: **4**
C Applicable CBSV-Likelihood Table for this severity level [Table 3]: **4 (iii)**

D Assessed BSV of individual Existing PCs & New PCs [Table 1]:
E-PC1	2	N-PC1	5
E-PC2	3	N-PC2	5
E-PC3	4	N-PC3	0
E-PC4	4	N-PC4	0
E-PC5	4	N-PC5	0
E-PC6	0	N-PC6	0
E-PC7	0	N-PC7	0
E-PC8	0	N-PC8	0

E Therefore total (SUM) BSV of all E-PCs plus N-PCs: **27**
F Assess total BSV of ONB (Applicable if E-PCs + N-PCs is more than ONBs): **18**
(Choose barriers with highest BSVs for this ONB-CBSV calculation)
G Resultant CBSV of UE (item E or F, whichever is applicable): **18**
H Resultant Likelihood of UE (CBSV-Likelihood Table of item 3): **1**
I Resultant Risk Index of the UE [Sht8, RI & Tolerability]: **1C**
J Resultant Tolerability of the UE: **Low Risk**

S-3. Existing Risk Index [Unsafe-Event > Consequence]

A Assessed Existing Severity level of the UC [Wsht 5]: **C**
B Therefore, UC's Optimum No of Barriers (ONB) [Table3]: **4**
C Applicable CBSV-Likelihood Table for this severity level [Table 3]: **4 (iii)**

D Assessed BSV of individual Existing RMs [Table 1]:
E-RM1	4
E-RM2	4
E-RM3	4
E-RM4	0
E-RM5	0
E-RM6	0
E-RM7	0
E-RM8	0

E Therefore, CBSV (SUM) of all E-RMs: **12**
F Assess CBSV of ONB (Applicable if E-RMs are more than ONBs): **12**
(Choose barriers with highest BSVs for this ONB-CBSV calculation)
G Existing CBSV of UC (item E or F, whichever is applicable): **12**
H Existing Likelihood of the UC (CBSV-Likelihood Table of item 3): **2**
I Existing Risk Index of the UC [Sht8, RI & Tolerability]: **2C**
J Existing Tolerability of the UC: **Moderate Risk**

S-4. Resultant Risk Index [Unsafe-Event > Consequence]

A Assessed Existing Severity level of the UC [Wsht 5]: **C**
B Therefore, UC's Optimum No of Barriers (ONB) [Table3]: **4**
C Applicable CBSV-Likelihood Table for this severity level [Table 3]: **4 (iii)**

D Assessed BSV of individual Existing RMs & New RMs [Table 1]:
E-RM1	4	N-RM1	4
E-RM2	4	N-RM2	5
E-RM3	4	N-RM3	0
E-RM4	0	N-RM4	0
E-RM5	0	N-RM5	0
E-RM6	0	N-RM6	0
E-RM7	0	N-RM7	0
E-RM8	0	N-RM8	0

E Therefore total (SUM) BSV of all E-RMs plus N-RMs: **21**
F Assess total BSV of ONB (Applicable if E-RMs + N-RMs is more than ONBs): **17**
(Choose barriers with highest BSVs for this ONB-CBSV calculation)
G Resultant CBSV of UC (item E or F, whichever is applicable): **17**
H Resultant Likelihood of UC (CBSV-Likelihood Table of item 3): **1**
I Resultant Risk Index of the UC [Sht8, RI & Tolerability]: **1C**
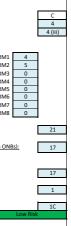J Resultant Tolerability of the UC: **Low Risk**