Galaxy Aerospace
maintenance . repair . overhaul

HAZARD IDENTIFICATION AND RISK MANAGEMENT (HIRM) FORM

1. HIRM REFERENCE NUMBER:	GAM/SMS/H-121(21)
2 AREA/ OPERATION/ EQUIPMENT:	Aircraft Maintenance Operation
3. HAZARD / THREAT [H/T]:	PGU Kuching as new operation and new line maintenance
4. UNSAFE EVENT [UE]:	Difficulty to perform aircraft maintenance as per schedule.
5. ULTIMATE CONSEQUENCE [UC]:	Impact to the company reputation due to not comply to the Authority standard maintenance requirement.

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		Approved by	Mohammad Nizam Jaafar (Safety Manager)
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Unsafe Event Mitigation (as applicable) / Ultimate Consequence Mitigation (as applicable)

The risk matrix section (columns for Hazard/Threat, Existing Preventive Controls [E-PC], New Preventive Controls [N-PC], Existing Recovery Measures [E-RM], New Recovery Measures [N-RM]) with sub-columns: 1. Backup/standby system, 2. Regulation/Requirement, 3. Std Operating Procedure, 4. Inspn/Maint program, 5. GM/Advisory/Notification, 6. Training, 7. Others, Escalation Factor [EF], Escalation Control [EC], Existing Risk Index, Tolerability.

Hazard / Threat: PGU Kuching as new operation and new line maintenance

Existing Preventive Controls [E-PC]:
- E-PC1
- E-PC2 — EF>E-PC2
- E-PC3 — EF>E-PC3 — EC>EF>E-PC3
- E-PC4 — EF>E-PC4 — EC>EF>E-PC4
- E-PC5 — EF>E-PC5

RI & T: 2C — Moderate Risk

New Preventive Controls [N-PC]:
- N-PC1 — EF>N-PC1
- N-PC2 — EF>N-PC2 — EC>EF>N-PC2

Resultant Risk Index: 1C — Low Risk

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

Existing Recovery Measures [E-RM]:
- E-RM1
- E-RM2
- E-RM3

RI & T: 2C — Moderate Risk

New Recovery Measures [N-RM]:
- N-RM1
- N-RM2

Resultant Risk Index: 1C — Low Risk

Ultimate Consequence: Impact to the company reputation due to not comply to the Authority standard maintenance requirement.

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:

5-1. 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): (Choose barriers with highest BSVs for this ONB-CBSV calculation)	15
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

5-2. 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): (Choose barriers with highest BSVs for this ONB-CBSV calculation)	18
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

5-3. 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 total BSV of ONB (Applicable if E-RMs are more than ONBs): (Choose barriers with highest BSVs for this ONB-CBSV calculation)	12
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
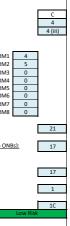
5-4. Resultant Risk Index [Unsafe-Event > Consequence]

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): (Choose barriers with highest BSVs for this ONB-CBSV calculation)	17
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