

Sht 4_Hazard Identification & Risk Mitization (HIRM) Worksheet

18 Apr '23

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|----------------------------------|--------------------------|---|---|
| HIRARC REFERENCE NUMBER: | | GAM-PGU-H008-M-2023-Variation of AMO Approval | |
| 1. AREA / OPERATION / EQUIPMENT: | | PLPGU IPOH/ PGU/ ALL PGU AW139 | |
| 2. HAZARD / THREAT [H/T]: | | VARIATION OF AMO APPROVAL | |
| 3. TOP-EVENT [TE]: | | TO CARRY OUT 25FH INSPECTION AT PLPGU IPOH | |
| 4. CONSEQUENCE [C]: | | AIRCRAFT NOT AIRWORTHY | |
| Date Conducted | 18-April-2023 | Conducted by | Syafri(EM), Ainudin(EIC), Izzuddin(QAI), Mustaqim(SE) |
| Revision | 00 | Received by | Safety Department |
| Approved by | Dato' Shamsul Kamar (AM) | Document Control Number | GAM/SMS/HRC-003-01/21 |



HAZARD IDENTIFICATION AND RISK MITIGATION (HIRM)
FORM

| Hazard / Threat | Top Event Mitigation | | | | | | | | | | | | | | | Top-Event | Ultimate Consequence Mitigation | | | | | | | | | | | | | | | Residual Risk Index | Tolerability | Consequence | | | | | | | |
|---------------------------|-------------------------------------|--|--|--|--|--|--|---------------------------------|--|--|--|--|--|--|--|-----------|-----------------------------------|--|--|--|--|--|--|------------------------------|--|--|--|---------------------------------|--|--|--|---------------------|--------------|-------------|--|--|--|--|----|------------|------------------------|
| | Existing Preventive Controls [E-PC] | | | | | | | New Preventive Controls [N-PC] | | | | | | | | | Existing Recovery Measures [E-RM] | | | | | | | New Recovery Measures [N-RM] | | | | | | | | | | | | | | | | | |
| VARIATION OF AMO APPROVAL | 1. Emergency Backup system [EB] | | | | | | | 1. Emergency Backup system [EB] | | | | | | | | | 1. Emergency Backup system [EB] | | | | | | | | | | | 1. Emergency Backup system [EB] | | | | | | | | | | | 1E | Acceptable | AIRCRAFT NOT AIRWORTHY |
| | 2. Equipment/ Tooling [ET] | | | | | | | 2. Equipment/ Tooling [ET] | | | | | | | | | 2. Equipment/ Tooling [ET] | | | | | | | | | | | 2. Equipment/ Tooling [ET] | | | | | | | | | | | | | |

| Description of Existing Preventive Controls [E-PC] | BSV | Description of New Preventive Controls [N-PC] | BSV |
|--|-----|---|-----|
| E-PC1: Engine power assurance check for number 1 and number 2 engine due every 25FH and HUMS data download due every 25FH. | 5 | N-PC1: To apply variation approval carry out engine power assurance and HUMS data download. | 5 |
| EF/UC/E-PC1: EC/EF/UC/E-PC1: | | EF/UC/N-PC1: EC/EF/UC/N-PC1: | |
| E-PC2: Schedule and plan next inspection before due for maintenance in accordance with aircraft maintenance program. | 5 | N-PC2: EIC to communicate with PGU Engineering Officer/ moderator Flight Ops for arrangement 25FH inspection at PLPGU ipoh. | 5 |
| EF/UC/E-PC2: EC/EF/UC/E-PC2: | | EF/UC/N-PC2: EC/EF/UC/N-PC2: | |
| E-PC3: To deploy qualified manpower, tools and support equipment. | 5 | N-PC3: | 0 |
| EF/UC/E-PC3: EC/EF/UC/E-PC3: | | EF/UC/N-PC3: EC/EF/UC/N-PC3: | |
| E-PC4: | 0 | N-PC4: | 0 |
| EF/UC/E-PC4: EC/EF/UC/E-PC4: | | EF/UC/N-PC4: EC/EF/UC/N-PC4: | |
| E-PC5: | 0 | N-PC5: | 0 |
| EF/UC/E-PC5: EC/EF/UC/E-PC5: | | EF/UC/N-PC5: EC/EF/UC/N-PC5: | |
| E-PC6: | 0 | N-PC6: | 0 |
| EF/UC/E-PC6: EC/EF/UC/E-PC6: | | EF/UC/N-PC6: EC/EF/UC/N-PC6: | |
| E-PC7: | 0 | N-PC7: | 0 |
| EF/UC/E-PC7: EC/EF/UC/E-PC7: | | EF/UC/N-PC7: EC/EF/UC/N-PC7: | |
| E-PC8: | 0 | N-PC8: | 0 |
| EF/UC/E-PC8: EC/EF/UC/E-PC8: | | EF/UC/N-PC8: EC/EF/UC/N-PC8: | |

<<< Unhide additional PC/ RM rows here where applicable.

| Description of Existing Recovery Measures [E-RM] | BSV | Description of New Recovery Measures [N-RM] | BSV |
|--|-----|---|-----|
| E-RM1: | 0 | N-RM1: | 0 |
| EF/UC/E-RM1: EC/EF/UC/E-RM1: | | EF/UC/N-RM1: EC/EF/UC/N-RM1: | |
| E-RM2: | 0 | N-RM2: | 0 |
| EF/UC/E-RM2: EC/EF/UC/E-RM2: | | EF/UC/N-RM2: EC/EF/UC/N-RM2: | |
| E-RM3: | 0 | N-RM3: | 0 |
| EF/UC/E-RM3: EC/EF/UC/E-RM3: | | EF/UC/N-RM3: EC/EF/UC/N-RM3: | |
| E-RM4: | 0 | N-RM4: | 0 |
| EF/UC/E-RM4: EC/EF/UC/E-RM4: | | EF/UC/N-RM4: EC/EF/UC/N-RM4: | |
| E-RM5: | 0 | N-RM5: | 0 |
| EF/UC/E-RM5: EC/EF/UC/E-RM5: | | EF/UC/N-RM5: EC/EF/UC/N-RM5: | |
| E-RM6: | 0 | N-RM6: | 0 |
| EF/UC/E-RM6: EC/EF/UC/E-RM6: | | EF/UC/N-RM6: EC/EF/UC/N-RM6: | |
| E-RM7: | 0 | N-RM7: | 0 |
| EF/UC/E-RM7: EC/EF/UC/E-RM7: | | EF/UC/N-RM7: EC/EF/UC/N-RM7: | |
| E-RM8: | 0 | N-RM8: | 0 |
| EF/UC/E-RM8: EC/EF/UC/E-RM8: | | EF/UC/N-RM8: EC/EF/UC/N-RM8: | |

<<< Unhide SC Rows here where applicable.

| Description of Existing Severity Controls [SC] to mitigate C | Description of New Severity Controls [SC] to mitigate C |
|--|---|
| E-SC1: | N-SC1: |
| E-SC2: | N-SC2: |

5-1. Existing Risk Index [Hazard > Consequence]

- Severity level of Consequence [Sht 4C] >> **4**
- Consequence's Optimum No of Barriers (ONB) [Sht 4A, Table3] >> **2**
- Applicable CBSV-Likelihood Table [Sht 4A, Table 3] >> **4 (0)**
- BSV of E-PCs and Existing-RMs [Sht 4B]:

| | | | |
|-------|---|-------|---|
| E-PC1 | 5 | E-RM1 | 0 |
| E-PC2 | 5 | E-RM2 | 0 |
| E-PC3 | 5 | E-RM3 | 0 |
| E-PC4 | 0 | E-RM4 | 0 |
| E-PC5 | 0 | E-RM5 | 0 |
| E-PC6 | 0 | E-RM6 | 0 |
| E-PC7 | 0 | E-RM7 | 0 |
| E-PC8 | 0 | E-RM8 | 0 |

- CBSV (SUM) of E-PCs and E-RMs >> **15**
- CBSV of ONB [Applicable if No of E-PCs and E-RMs is > ONB] >> (SUM of best BSVs up to ONB) **10**
- CBSV of Consequence (CBSV in Step 5 or 6, whichever is applicable) >> **10**
- Existing Likelihood of Consequence (Table of item 3) >> **1**
- Existing Risk Index of Consequence [Pairing of Step 1 + 8] >> **1E**
- Existing Tolerability of Consequence [Sht 8] >> **Acceptable**

5-2. Resultant Risk Index [Hazard > Consequence]

- Severity level of Consequence [Sht 4C] >> **4**
- Consequence's Optimum No of Barriers (ONB) [Sht 4A, Table3] >> **2**
- Applicable CBSV-Likelihood Table [Sht 4A, Table 3] >> **4 (0)**
- BSV of E-PCs, N-PCs, E-RMs, and N-RMs [Sht 4B]:

| | | | | | | | |
|-------|---|-------|---|-------|---|-------|---|
| E-PC1 | 5 | N-PC1 | 5 | E-RM1 | 0 | N-RM1 | 0 |
| E-PC2 | 5 | N-PC2 | 5 | E-RM2 | 0 | N-RM2 | 0 |
| E-PC3 | 5 | N-PC3 | 0 | E-RM3 | 0 | N-RM3 | 0 |
| E-PC4 | 0 | N-PC4 | 0 | E-RM4 | 0 | N-RM4 | 0 |
| E-PC5 | 0 | N-PC5 | 0 | E-RM5 | 0 | N-RM5 | 0 |
| E-PC6 | 0 | N-PC6 | 0 | E-RM6 | 0 | N-RM6 | 0 |
| E-PC7 | 0 | N-PC7 | 0 | E-RM7 | 0 | N-RM7 | 0 |
| E-PC8 | 0 | N-PC8 | 0 | E-RM8 | 0 | N-RM8 | 0 |

- CBSV (SUM) of E-PCs, N-PCs, E-RMs and N-RMs [Note comment flag] >> **25**
- CBSV of ONB [Applicable if No of PCs and RMs is > ONB] >> (SUM of best BSVs up to ONB) **10**
- CBSV of Consequence (CBSV in Step 5 or 6, whichever is applicable) >> **10**
- Resultant Likelihood of Consequence (Table of item 3) >> **1**
- Resultant Risk Index of Consequence [Pairing of Step 1 + 8] >> **1E**
- Resultant Tolerability of Consequence [Sht 8] >> **Acceptable**