

**SAFETY MANAGEMENT SYSTEM MANUAL**  
**AIRCRAFT MAINTENANCE TRAINING ORGANIZATION**  
**(SMSM AMTO 147)**



**SEKOLAH TINGGI TEKNOLOGI KEDIRGANTARAAN (STTKD)**  
**YOGYAKARTA**

**2017**

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**2017**





**MINISTRY OF TRANSPORTATION  
DIRECTORATE GENERAL OF CIVIL AVIATION**

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# APPROVAL

**DGCA Approval Number: 3756 /DKPPU/APP/VIII/2017**

This Safety Management Manual (SMSM) has been reviewed and is acceptable in its form and content. The Safety Management Manual (SMSM) is approved for use by Sekolah Tinggi Teknologi Kerdigantaraan (STTKD) Yogyakarta under CASR 147 with the understanding that Director General of Civil Aviation (DGCA) may require further amendments to this manual as regulatory requirements are amended.

The list of effective pages has been date stamped and approved (or as specified for the operator) and this together with the letter of approval form part of your approved Safety Management Manual (SMSM).

Jakarta, August 15, 2017

On behalf of the Director of Airworthiness and Aircraft Operations

  
**JOHANNIS TANGKE**  
Deputy Director of Standards



# MINISTRY OF TRANSPORTATION

## DIRECTORATE GENERAL OF CIVIL AVIATION

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## CONTROL PAGE

TITLE	PAGE	Revision	DATE
CONTROL PAGE	CP – 1	00	August 21 , 2017
LIST OF EFFECTIVE PAGES	LEOP-1	00	May 09 , 2017

This Safety Management Manual (SMSM) is approved for use by Sekolah Tinggi Teknologi Kedirgantaraan (STTKD) Yogyakarta under CASR 147 with understanding that Director General of Civil Aviation (DGCA) may require further amendments to the Safety Management Manual (SMSM) as regulatory requirements or airworthiness standards are modified.

Jakarta, August 15 , 2017

On behalf of the Director of Airworthiness and Aircraft Operations



**JOHANNIS TANGKE**  
Deputy Director of Standards





## **PREFACE**

The intend of Safety Management System Manual is to produce a culture of safety awareness, a proactive approach for identifying, managing and controlling risk at all level and function.

This Safety Management System Manual with AC 120-01 and Indonesia Act No. 1, 2009 which provide information and guidance to STTKD Safety Officers and persons related to safety to detect hazards, managing safety and risk in a systemic, explicit and comprehensive process as an internal part of all STTKD Business.

This manual is published and maintained by Safety Manager with fully support by safety officers under the authority of the Accountable Manager STTKD.

Yogyakarta, 9 May 2017

Vidyana Mandrawati, S.E., M.M  
Accountable Manager



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# **SAFETY MANAGEMENT SYSTEM**

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## Amendment Record List

A complete manual will be issued containing all revised text. Upon receipt of a revision, each manual account holder will be responsible for signing the List of Effective Pages (LEP) and returning the LEP copies to the Quality Control Manager. This will show that the account holder has revised the manual. It is the responsibility of the manual account holder to destroy the obsolete manual.

REVISION No.	REVISION DATE	INSERTED DATE	INSERTED BY
Rev 0	9 May 2017	9 May 2017	Quality Control Manager





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### List of Effective Pages

LEP indicates the revision status and issue date. Revisions throughout the SMS Manual will be indicated by a bar in the left margin and / or by shading the revised text.

CHAPTER Page No.	REV No.	REV. DATE	CHAPTER Page No.	REV No.	REV. DATE
Approval AP-1	0	21/8/2017	Appendix 2 App.2-1 of 2	0	9/5/2017
Control Page CP-1	0	21/8/2017	Appendix 3 App.3-1 of 2	0	9/5/2017
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Chapter 2 – Safety Risk Management 2-1 thru 2-8	0	9/5/2017			
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Appendix 1 App.1-1 of 2	0	9/5/2017			

#### STTKD APPROVAL

Date : May 9<sup>th</sup> 2017  
Sign/ Name :

Guharsa Wiriakusuma

#### DGCA ACCEPTED

Date :  
Sign/ Name :



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## **Document Control**

This SMS manual prescribes the Safety Management System (SMS) procedures and policies of the “Company” as named on the title page

The Quality Control Manager will review and ensure the contents of this manual are prepared and updated in compliance with the Advisory Circular and/or ICAO SARPs Annex 6. It contains the procedures and policies used by the company to determine its SMS requirements, documentation of SMS and measurement of the effectiveness of its SMS program. This manual is made of 4 Chapters and 7 Appendix. This manual is readily accessible and available to all the company employees.

### **Manual Distribution, Control and Revision Process**

The Quality Control Manager is responsible for controlling and keeping the current manual posted in the companies intranet website and the hard copy manual updated. Any of these tasks may be delegated as necessary but does not remove his/her overall accountability. The SMS Manual is distributed on a controlled basis by hard copy or electronically available via the company intranet. The master SMS manual shall be kept in the Quality Control Manager’s office. A soft copy of the SMS manual shall be maintained and kept current in the company intranet website which is available to all employees.

### **Revisions**

Amendments to the Manual are numbered consecutively starting with number 00. Amendments are indicated by a revision line adjacent to the revised text / paragraph and/or revised text / paragraph is highlighted whenever a revision line adjacent to the changes is not possible. Request for revision or amendment can be made to Quality Control Manager for consideration via verbal or written communications. The Quality Control Manager is responsible for coordinating all revisions to this manual. Each revision of the manual is approved by the Accountable Manager.

### **Periodically Review of The SMS Manual**

This SMSM reviewed periodically to ensure that the manual related documentation and manuals to ensure their continuing suitability, adequacy and effectiveness, and will be identified needed change. Process for periodic review will follows the internal audit program outlines in Chapter 3.

### **Correlation of This Manual with Other Approved Documentation**

This Manual is relevant and has initial correlation to other safety related requirements or standard such as Training Procedures Manual (TPM), Operation Manuals, etc.



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## Distribution List

### Hard Copy Format

The Quality Control Manager is responsible for distributing revisions to this manual. All manuals contained within the company will be controlled and updated. Quality Control Manager shall have a hard copy manual with a control number and an assignment entry. A complete list of the assigned copies of the manual will be recorded on the Hard Copy Distribution List. Copies of all past issues and revisions of the company SMS Manual are maintained by Quality Control Manager.

Control No.	Holders
Master	Quality Control Manager
COPY 1	Director/Accountable Manager
COPY 2	DGCA
COPY 3	Training Manager AMTO 147
COPY 4	Chief Instructor
COPY 5	Library

### Electronic Format (CD Version)

The Quality Control Manager is responsible for the issue and administration of this SMS manual. Any employee can access the SMS manual in any office or work location. Access is read-only to prevent any inadvertent changes to the information. The Quality Control Manager shall be responsible for ensuring the most current approved manual is available. The company's system to ensure currency and consistency for all users of the manual is to maintain only one version of the manual electronically. Any document printed out from the electronic versions posted in the company intranet website is considered uncontrolled copy.



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## Definitions

<b>ALARP</b>	As low as reasonably practicable.
<b>ALS</b>	Acceptable Level of Safety (ALS) expresses the safety performance indicator benchmark or alert level(s) of an organization. They are the minimum safety performance deemed acceptable to an organization while conducting their core business functions. They are subject to acceptance by DGCA.
<b>Hazard</b>	Is a condition, object or activity with the potential of causing injuries to personnel, damage to equipment or structure, loss of material or reduction of ability to perform a prescribed function.
<b>HIRA</b>	Hazard Identification and Risk Assessment.
<b>Mitigation</b>	Measures to eliminate the potential hazard or to reduce the risk probability or severity.
<b>Probability</b>	Likelihood that a situation of danger might occur.
<b>Risk Index</b>	Combined value of risk probability and severity.
<b>Risk</b>	Is the chance of a loss or injury, measured in terms of severity and probability. The chance that an event can happen and the consequences when it does.
<b>Safety Assessment</b>	The process or action of performing hazard identification and risk analysis.
<b>Severity</b>	The possible consequences of a situation of danger, taking as reference the worst foreseeable situation.



## **Abbreviations**

<b>AC</b>	Advisory Circular
<b>ALARP</b>	As low as Reasonable Practices
<b>ALoS</b>	Acceptable Level of Safety
<b>AMTO</b>	Aircraft Maintenance Training Organization
<b>AMO</b>	Approved Maintenance Organization
<b>AOC</b>	Air Operator Certificate
<b>ATO</b>	Air Transportation Oversight System
<b>BASARNAS</b>	Badan Search and Rescue Nasional
<b>CASO</b>	Company Aviation Safety Officer
<b>CAR</b>	Corrective Action Requirement
<b>CBT</b>	Computer Base Training
<b>CEO</b>	Chief of Executive Officer
<b>CASR</b>	Civil Aviation Safety Regulation
<b>EHS</b>	Environment Health & Safety
<b>E-Mail</b>	Electronic Mail
<b>FAX</b>	Facsimile
<b>FDR</b>	Flight Data Recorder
<b>FTS</b>	Facilities Technical Support
<b>GSE</b>	Ground Support Equipment
<b>GSO</b>	Ground Safety Officer
<b>HR &amp; GA</b>	Human Resources and General Affairs
<b>IATA</b>	International Air Transport Association
<b>ICAO</b>	International Civil Aviation Organization
<b>ID</b>	Identity
<b>IIC</b>	Investigator In-Charge
<b>IT</b>	Information Technology



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<b>KNKT</b>	Komite National Keselamatan Transportasi
<b>OIC</b>	Operation In Charge
<b>OM</b>	Outer Maker
<b>OTC</b>	Operation Training Center
<b>POI</b>	Principal Operations Inspector
<b>PPE</b>	Personnel Protective Equipment
<b>RHI</b>	Risk Hazard Index
<b>QA</b>	Quality Assurance
<b>SC</b>	Safety Committe
<b>SM</b>	Safety Manager
<b>SMS</b>	Safety Management System
<b>SPM</b>	Standard Practices Manual
<b>SAG</b>	Safety Action Group
<b>SRB</b>	Safety Review Board
<b>STTKD</b>	Sekolah Tinggi Teknologi Kedirgantaraan





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## **CHAPTER 1 : SAFETY POLICY AND OBJECTIVES**

### **1.1. MANAGEMENT COMMITMENT AND RESPONSIBILITY**

#### **SAFETY POLICY**

Safety is one of our core business functions. We are committed to developing, implementing, maintaining and constantly improving strategies and processes to ensure that all our aviation activities take place under balanced allocation resources, aimed at achieving the highest level of safety performance and meeting national and international standards.

All levels of management are accountable for the delivery of this highest level of safety performance, starting with the Accountable Manager or as appropriate to the organization.

Our commitment is to :

- a) Support the management of safety through the provision of appropriate human and financial resources that will result in an organizational culture that fosters safe practices, encourages effective safety reporting and communication, and actively manages safety with the same attention to results as financial management.
- b) Enforce the management of safety among the primary responsibility of all managers;
- c) Clearly define for all staff their accountabilities and responsibilities for the delivery of safety performance;
- d) Establish and implement hazard identification and risk management processes in order to eliminate or mitigate the risks associated with (aircraft/ ATC/ maintenance/ aerodrome) operations to a point which is As Low As Reasonably Practicable;
- e) Comply with and wherever possible exceed legislative and regulatory requirements and standards;
- f) Ensure sufficient skilled and trained resources are available to implement safety strategies and processes;
- g) Ensure that all staff are provided with adequate and appropriate aviation safety information and training, are competent in safety matters and are only allocated tasks commensurate with their skills;
- h) Establish and measure our safety performance against realistic objectives and/or targets;



- i) Continually improve our safety performance and conduct safety management reviews to ensure relevant safety action is taken and is effective; and
- j) Ensure externally supplied systems and services to support our operations are delivered meeting our safety performance standards.

Yogyakarta, 9 May 2017

Vidyana Mandrawaty, S.E., M.M  
Accountable Manager



### **NON PUNITIVE REPORTING POLICY**

1. Accountable Manager is committed to the safest operating standards possible. To achieve this, it is imperative that we have uninhibited reporting of all incidents and occurrences which may compromise the safe conduct of our operations. To this end, every employee is responsible for communicating any information that may affect the integrity of safety. Such communication must be completely free of any form of reprisal.
2. Accountable Manager will not take disciplinary action against any employee who discloses an incident or occurrence involving safety. This policy shall not apply to information received by the Company from a source other than the employee, or which involves an illegal act, or a deliberate or willful disregard of promulgated regulations or procedures.
3. The primary responsibility for safety rests with lines manager, however, safety is everyone's concern.
4. Our method of collecting, recording and disseminating information obtained from Air Safety Reports has been developed to protect, to the extent permissible by law, the identity of any employee who provides safety information.
5. I urge all staff to use our safety program to help Approved Maintenance Training Organization (AMTO) STTKD become a leader in providing our customers and employees with the highest level of safety.

Yogyakarta, 9 May 2017

Vidyana Mandrawaty, S.E., M.M  
Accountable Manager



## **Safety Objectives and Goals**

The company is committed to continuously improve all aspects of SMS programs and strive for continuous improvement in safety of products and services by implementing and maintaining an effective SMS and to establish several safety goals and objectives to express the organization's target safety performance level.

The safety objectives and safety performance goals shall be reviewed on a regular basis. Objectives and goals will be set, our progress will be tracked and management will be held accountable for minimizing and controlling risks and impacts. Our intention is to promote a culture where each employee feels responsible for SMS.

### **Safety Objectives**

- ✓ To implement a non-punitive reporting system (just culture) through which errors, safety hazards or concerns can be reported;
- ✓ To establish a functional SMS system to proactively identify, eliminate or mitigate potential hazardous conditions within our aviation related processes and operations;
- ✓ To promote and establish strong safety culture across the organization where every employee is aware of his or her responsibility to report hazards and occurrence of errors or incidents;
- ✓ To minimize accidents/ incidents those are attributable to organizational factors;
- ✓ To perform Hazard Identification and Risk Assessment (HIRA) on all critical processes and products as per schedule;
- ✓ To improve the Safety Management System through internal SMS audit which reviews all aspects of SMS;
- ✓ To provide relevant SMS training/ education to all personnel.

### **Safety Goals (Acceptable Level of Safety)**

- ✓ To reduce and, if possible, eliminate Human Error, violation or Quality escapes;
- ✓ To reduce the cost of poor quality (COPQ);
- ✓ To ensure no major findings are identified during external audits;
- ✓ To complete the Hazard Identification and Risk Assessment as per planned HIRA schedule.





## **1.2 SAFETY ACCOUNTABILITIES**

### **Accountable Manager**

- ✓ The Accountable Manager is ultimately responsible for the implementation and maintenance of the SMS;
- ✓ He/ She has the full control of human/ financial resources and has final authority over operations under the certificate of approval;
- ✓ He/ She should have final responsibility for all aviation safety issues.
- ✓ The Accountable Manager may delegate all duties assigned to any qualified assistants as necessary.
- ✓ For SMS implementation, he/ she will assign SMS requirements and responsibilities to Quality Control Manager. However such delegation does not relieve the Accountable Manager of the overall responsibilities of product safety.

### **Safety Review Board**

- ✓ Safety Review Board (SRB) consists of Accountable Manager, Quality Control Manager and other members of management team and shall be responsible for the overall system implementation and safety performance review.
- ✓ The objective of the SRB is to provide a forum to discuss safety issues and the overall health and direction of the SMS.
- ✓ The SRB shall comprises of Managers and Staff from various departments stipulated as below:
  - Accountable Manager
  - Training Manager
  - Quality Control Manager
  - Chief Instructor
- ✓ The role of the SRB would include:
  - Making recommendations or decisions concerning safety policy and objectives
  - Defining safety performance indicators and set safety performance goals for the organization.
  - Reviewing of safety performance and outcomes.
  - Providing strategic directions to departmental Safety Action Groups where applicable.
  - Directing and monitoring the initial SMS imple mentation process.



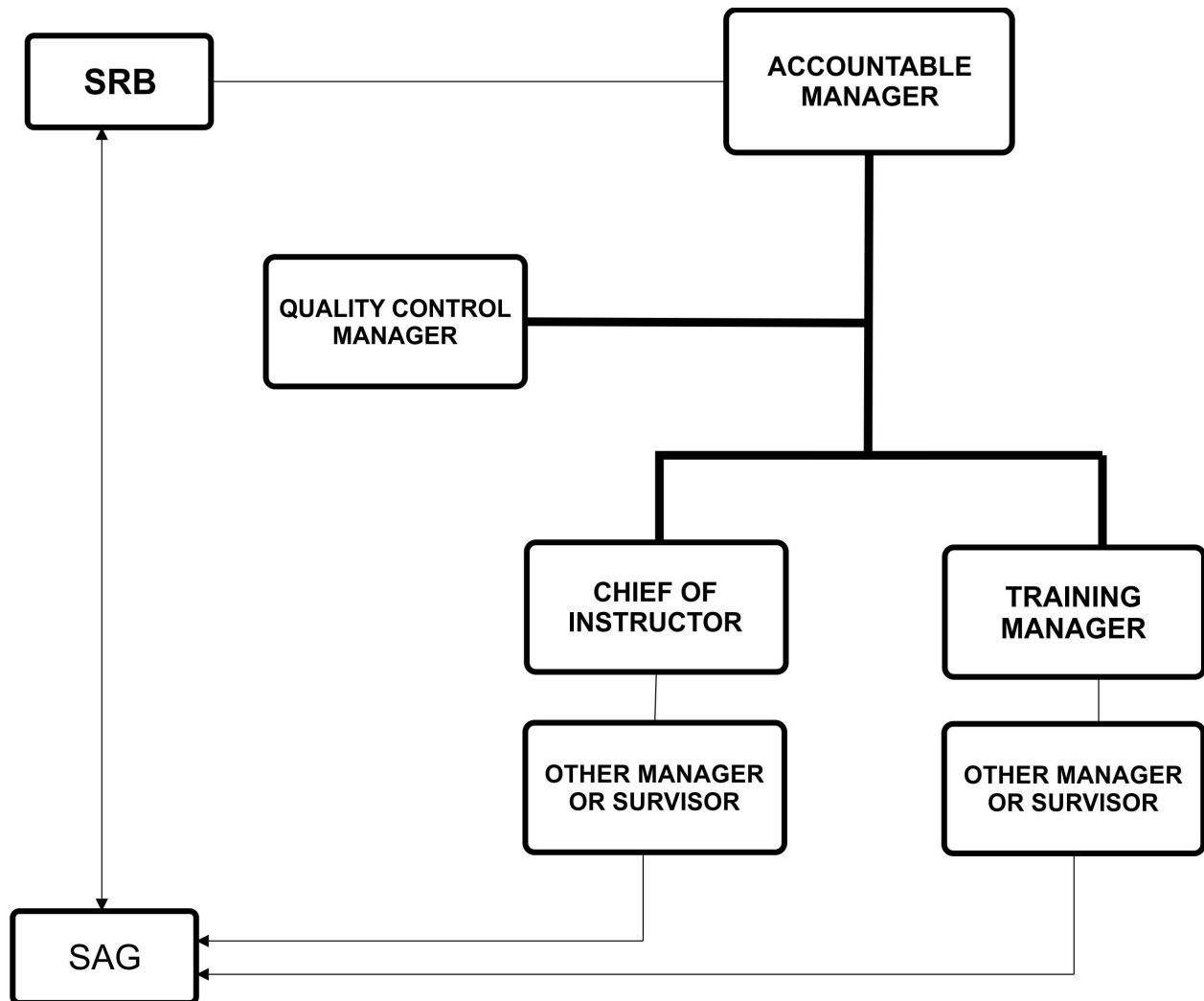
### **Safety Action Group**

- ✓ Safety Action Group (SAG) consists of Quality Control Manager and all other manager, supervisor personnel and specialist.
- ✓ Regular meeting (at least in monthly meeting) is chaired by the Quality Control Manager.
- ✓ SAG may be convened to manage issues or matters relating to safety.
- ✓ Members of the SAG shall take direction and advice from SRB.
- ✓ The roles of the SAG include:
  - Over seeing operational safety within functional area;
  - Managing the area's hazard identification and risk assessment activities;
  - Implementing mitigation or corrective actions to improve aviation safety relevant to the area;
  - Assessing the impact of aviation safety on operational changes and activating hazard and risk assessment process as appropriate;
  - Maintaining and reviewing relevant safety performance indicators.

### **List of Key SMS Personnel**

- ✓ Accountable Manager.
- ✓ Quality Control Manager.
- ✓ Member of Safety Review Board (SRB)
  - Accountable Manager
  - Quality Control Manager.
  - Chief Instructor
  - Training Manager
  - Any other Manager or Supervisor
- ✓ Member of Safety Action Group (SAG)
  - Quality Control Manager
  - Quality Control Inspector 147
  - Chief Instructor
  - Training Manager
  - Any other Manager or Supervisor.

NOTE : Reference Company Organization Chart for Names.



### **Non Punitive Policy (Just Culture)**

- ✓ The company is committed to safety and it is imperative that it possess an uninhibited reporting system for all incidents/accidents and occurrences that compromise the operations safety.
- ✓ Employees are encouraged to report errors, safety deficiencies, hazards, accidents and incidents with no retributions. Employees are assured that the company will never initiate disciplinary actions against those who disclose an incident or occurrence involving activity that affects aviation safety.
- ✓ This is imperative so that all errors, mistakes, safety deficiencies, violations can be investigated and action plans to remove the potential hazard which can be a threat to the aviation safety, are implemented.
- ✓ The company develops a self reporting system so that employee can report a safety hazard, concern or incident. The system is designed to protect the identity of the



employee who provides the information. The employee can choose to remain anonymous if he/she so desires.

- ✓ The report is only accessible by the Accountable Manager, the Quality Control Manager or his/her delegate and shall be treated with confidentiality.
- ✓ Safety reporting made through voluntary self disclosure shall be considered Non-Punitive unless the following conditions exist :
  - Recklessness;
  - Willful misconduct;
  - Willful non compliance;
  - Not timely and self voluntary reporting of violation or error.

### **1.3. APPOINTMENT OF KEY SAFETY PERSONNEL**

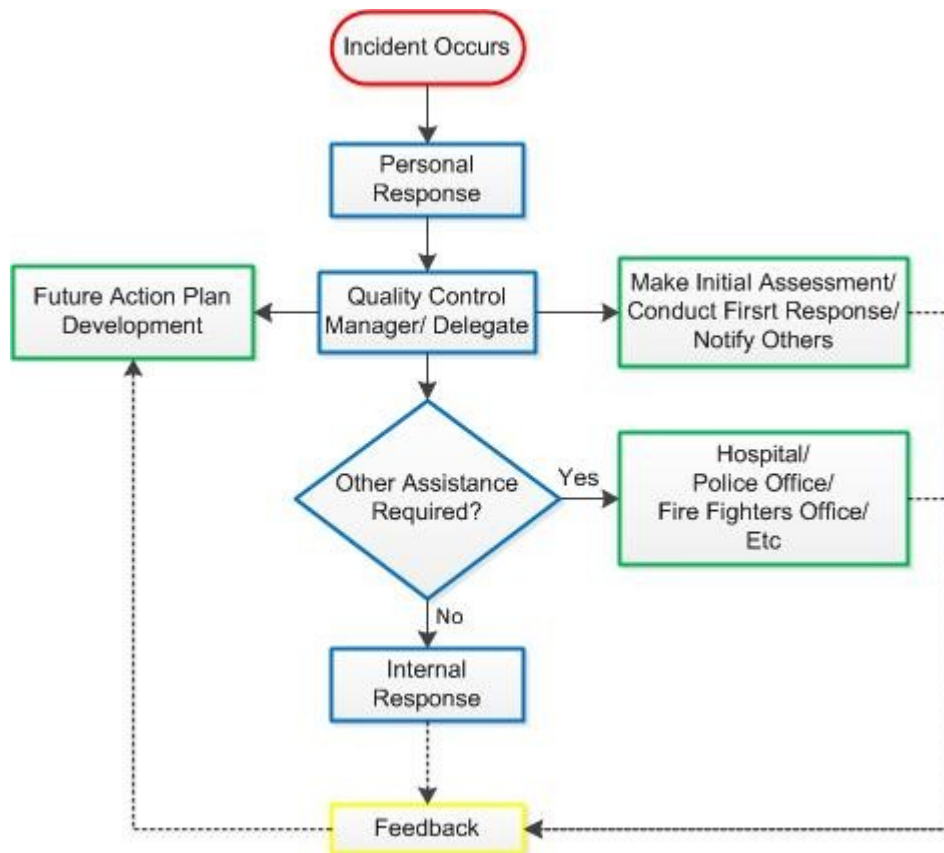
- ✓ Appointment of key personal or Quality Control Manager is directly accountable to the Accountable Manager for the maintenance as well as implementation of SMS activities across the entire organization.
- ✓ His/ Her primary responsibility is to facilitate and administer the organization's Safety Management System.
- ✓ He/ She acts as the focal point and driving force for the implementation as well as the maintenance of the SMS activities across the entire organization.
- ✓ The Quality Control Manager shall not have conflicting responsibility with any of the operational areas.
- ✓ Other responsibilities of the Quality Control Manager shall include:
  - Managing the SMS implementation plan.
  - Facilitating hazard identification and risk assessment activities.
  - Monitoring the effectiveness of mitigation actions.
  - Providing periodic reports on safety performance.
  - Maintaining the SMS implementation.
  - Planning and organizing staff safety training.
  - Providing independent advice on safety matters to senior Management.

### **1.4. COORDINATION OF EMERGENCY RESPONSE PLANNING**

- ✓ Quality Control Manager or delegate will lead the investigation process in the event of incident/accident/escape.
- ✓ Criticality of the incident/accident/escape shall be determined and action plan to be developed as appropriate.
- ✓ Planned actions shall be developed to minimize indirect or consequential damage upon the occurrence of incident/ accident/ violation/ escape.



✓ Flowchart:



### 1.5. SMS DOCUMENTATION

- ✓ Records relating to SMS activities shall be properly documented in a prescribed manner. All records shall be legible and kept in a secured, dry and clean environment to minimize deterioration or damage and to prevent loss.
- ✓ The soft copy of the records shall be kept in the company intranet website which is accessible to all employees. The intranet system shall be backed up on a periodic basis as per company policy.
- ✓ SMS related documents include:
  - Hazard Identification and Risk Assessments Reports;
  - Integrated SMS/Human Factor Training and Promotional materials;
  - Safety training records;
  - Safety/SMS audit reports;
  - Analysis of safety trends/indicators;
  - Minutes meeting of SMS/Safety Action Group;



### SMS Records Retention

- ✓ The following records shall be maintained and retained as per below stipulated period as follows:

SMS Element	Type of Records	Location	Retention Period
Safety Policy & Objectives	SMS/SAG Minutes	SMS Manager's office	3 years
	SMS Program Evaluation	SMS Manager's office	3 years
Safety Risk Management	HIRA Reports/Register	Engineering Manager's office	Indefinite
	Report Statistics	SMS Manager's office	Indefinite
	Safety Reporting/Self Disclosures	SMS Manager's office	Indefinite
Safety Investigations	Safety Investigation Report	SMS Manager's office	Indefinite
Safety Assurance	SMS Audit Schedule	SMS Manager's office	3 years
	SMS Audit Report (Assessment Protocol)		
	SMS Performance Indicator Chart		
Safety Training & Promotion	Training Records	SMS Manager's office	5 years after staff resignation

All records shall be kept in a proper environment and will not be destroyed without the authorization from the Quality Control Manager and relevant Civil Aviation Authority shall be notified.



## **CHAPTER 2 : SAFETY RISK MANAGEMENT**

### **2.1 HAZARD IDENTIFICATION**

#### **Safety Reporting System**

- ✓ The company has a reporting system in place which is designed to manage both accident/incident (reactive) report and hazard (proactive) reports.
- ✓ All employees are encouraged to report errors, violation, safety deficiencies, hazards, accidents/incidents using the reporting system in timely manner.
- ✓ The company believes in the sharing of error/ violation and advisory approach to resolving safety issues to enhance and promote aviation safety.
- ✓ Safety reporting can be self voluntary or mandatory depending on the nature of the errors, safety deficiencies, hazards, accidents and incidents.
- ✓ All employees are encouraged to report safety matter/deficiency through the electronic system in the company intranet or hard copy reporting form located at the VSM office.
- ✓ The safety reporting via the electronic or hard copy systems shall be forwarded to the Quality Control Manager or delegate to administer and initiate the investigation process.
- ✓ The sender can remain anonymous if she/he so desires.
- ✓ The safety report shall be evaluated by the Quality Control Manager or his/her delegate. The report will be categorized by the level of safety concern, ownership of the error/program and by the product/process involved.
- ✓ The report shall be forwarded to the SAG to conduct the hazards identification and risk assessment if appropriate. Corrective action will be carried out to eliminate the risk or mitigate the risk to an acceptable level of safety.
- ✓ All safety reporting and subsequent safety investigations shall be treated and conducted with strictest confidence on a need to know basis.





- ✓ Reference: Form SMS-01 Safety Management System Reporting.

### **Examples of Safety Reporting**

Below are few examples of occurrence where safety reporting can be made. Employees are encouraged to highlight errors, safety deficiencies, hazards, accidents and incidents as follows:

#### **Compliance Issues:**

- ✓ Employee not following procedure/approved data/safety guidelines;
- ✓ Employee performing work outside his/her scope of authorization;
- ✓ Employee willfully omits operation but stamps off as accomplished;
- ✓ Inspection does not meet specifications but stamps off as acceptance / accomplished;
- ✓ Actual operational task is performed by associate other than the person stamping the operation step;
- ✓ Inability to comply with work instructions due to ambiguities, lack of proper tools and equipment, lack of training, lack of materials, instructional inadequacy, etc.

#### **Process/ Equipment Control:**

- ✓ Lack of proper tools and equipment;
- ✓ Parts processed and inspected using measuring & test equipment with expired calibration.

#### **Repair Lapses:**

- ✓ Discovery of wrong component installed into engine;
- ✓ Discovery of approved/wrong consumables, standard part or materials e.g. chemical, balancing rivets, blasting beads,
- ✓ Parts released to service but suspected to be non conforming;
- ✓ Discovery of a missing step or steps in the performance of the required tasks;



- ✓ Discovery of wrongly identified parts resulting in inter mixing, and causing process errors

## 2.2 SAFETY RISK ASSESSMENT AND MITIGATION

- ✓ Hazard Identification and Risk Assessment (HIRA) is a structured process where organizational hazards are identified and managed so that safety is not compromised.

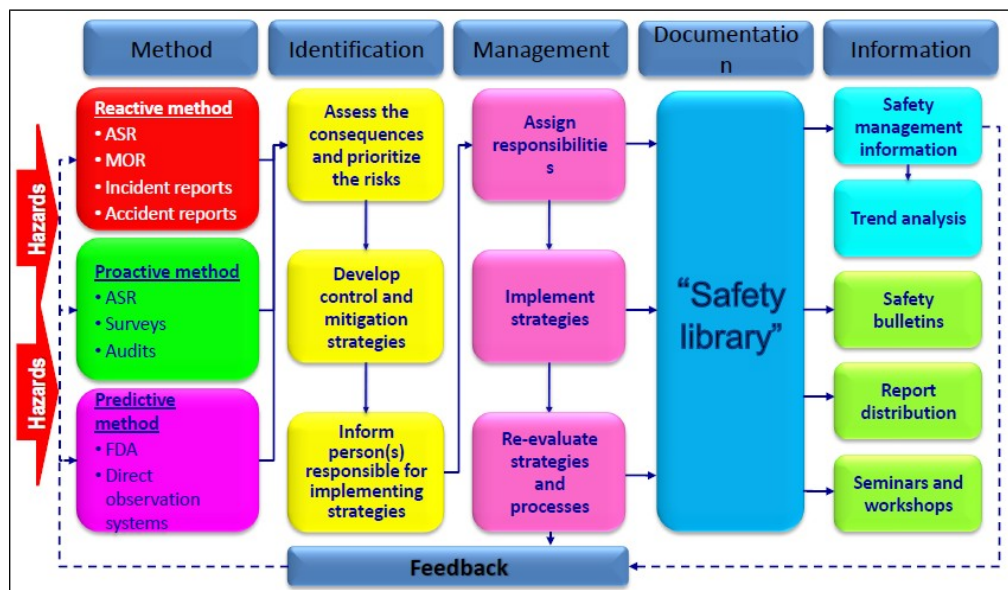


Figure 1 : Overview of Hazard Identification and Risk Assessment

- ✓ Figure 1 shows an overview of the Hazard Management Process at the company.
- ✓ The HIRA process can be initiated by reactive, proactive and predictive process. This will include the voluntary reporting system, audits, surveys, accident /incident reports as well as industry accident/ incident reports.
- ✓ It may be performed at any time as well as under specific conditions. Specific conditions would include:
  - When there is an unexplained increase in safety-related events or infractions;
  - When there are abnormal audit or safety indicator trends;
  - When major operational changes are planned;



- Before a new project, major equipment or facility is set up;
- During a period of significant organizational change.
- ✓ The HIRA process is initiated with the identification of generic hazards that may impact aviation safety, followed by a specific risk description associated with the hazard. A risk assessment log table shall be developed to prioritize the safety issues.
- ✓ Some of the risks may not be totally removed, however risk mitigation has to be established to implement actions to reduce the probability or severity of risks associated with hazards to an acceptable level of safety.
- ✓ Implementation of risk management processes is critical to an effective safety management programme.
- ✓ The risk probability and risk severity of the risk description must be assessed. Risk probability is the likelihood that a situation of danger might occur. Table 1 shows the risk probability table with the meanings and values assigned of each level of risk probability.

Quantitative Definition	Meaning (ICAO Doc 9859 table 6.1)(Table 1, AC 1-3)	Value
<b>Frequent</b> (1 to 10 <sup>-3</sup> per hour)	Likely to occur many times (has occurred frequently)	<b>5</b>
<b>Occasional</b> (10 <sup>-3</sup> to 10 <sup>-5</sup> per hour)	Likely to occur some times (has occurred infrequently)	<b>4</b>
<b>Remote</b> (10 <sup>-5</sup> to 10 <sup>-7</sup> per hour)	Unlikely, but possible to occur (has occurred rarely)	<b>3</b>
<b>Improbable</b> (10 <sup>-7</sup> to 10 <sup>-9</sup> per hour)	Very unlikely to occur (not known to have occurred)	<b>2</b>
<b>Extremely improbable</b> (≤ 10 <sup>-9</sup> per hour)	Almost inconceivable that the event will occur	<b>1</b>

**Table 1 : Risk Probability Table**



- ✓ Risk severity measures the possible consequences of a situation of danger, taking as reference the worst foreseeable situation. Severity may be defined in terms of property, health, finance, liability, people, environment, image, or public confidence.
- ✓ Table 2 shows the Risk Severity table, with descriptions attached to each level of Risk Severity.

Aviation Definition	Meaning (Aviation definition Ref ICAO Doc 9859 Table 6.1)	Value
Catastrophic	<ul style="list-style-type: none"><li>– Equipment destroyed,</li><li>– Multiple deaths</li></ul>	A
Hazardous	<ul style="list-style-type: none"><li>– A large reduction in safety margins, physical distress of a workload such that the operators cannot be relied upon to perform their tasks accurately or completely.</li><li>– Serious injury or death to a number of people.</li><li>– Major equipment damage.</li></ul>	B
Major	<ul style="list-style-type: none"><li>– A significant reduction in safety margins, a reduction in the ability of the operators to cope with adverse operation conditions as a result of an increase in workload, of as a result of conditions impairing their efficiency.</li><li>– Serious incident.</li><li>– Injury to persons.</li></ul>	C
Minor	<ul style="list-style-type: none"><li>– Nuisance,</li><li>– Operating limitation,</li><li>– Use of emergency procedures,</li><li>– Minor incident</li></ul>	D
Negligible	<ul style="list-style-type: none"><li>– Little consequences</li></ul>	E

**Table 2 : Risk Severity Table**

- ✓ Once the Risk Probability and risk Severity values are determined, they will (together) constitute the “Risk Index” for that occurrence. The complete “Risk Index” matrix is shown in Table 3. The acceptability (action required) for each risk index is reflected in the Risk Acceptability table (Table 4).



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

**Table 3 : Risk index Matrix**

Risk management	Assessment risk index	Acceptability/Action Required
	5A, 5B, 5C, 4A, 4B, 3A	STOP: Unacceptable under the existing circumstances. Do not permit any operation until sufficient control measures have been implemented to reduce risk to an acceptable level.
	5D, 5E, 4C, 4D, 4E, 3B, 3C, 3D, 2A, 2B, 2C	Acceptable based on risk mitigation. Management attention and approval of risk control/ mitigation actions required.
	3E, 2D, 2E, 1A, 1B, 1C, 1D, 1E	Acceptable

**Table 4: Risk Acceptability Table**

- ✓ The appropriate corrective and preventive actions shall be taken to either eliminate or mitigate each risk to an acceptable level of safety.
- ✓ The Safety Risk Management Process.

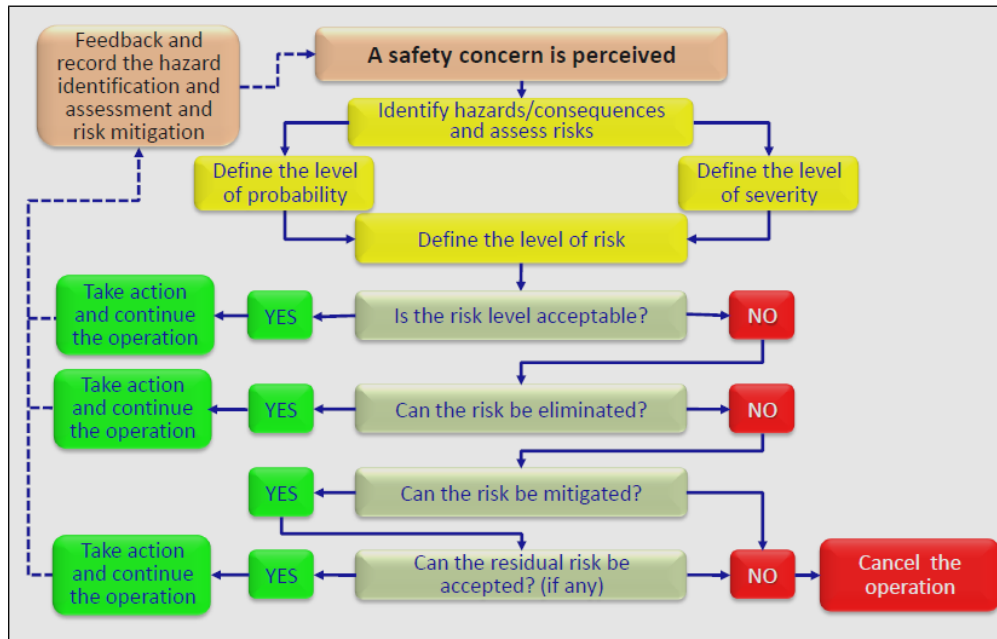


Figure 1 : Safety Risk Management Process



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# **SAFETY MANAGEMENT SYSTEM**

**SEKOLAH TINGGI TEKNOLOGI KEDIRGANTARAAN**

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## **CHAPTER 3: SAFETY ASSURANCE**

### **3.1. SAFETY PERFORMANCE MONITORING AND MEASUREMENT**

- ✓ Safety Performance Indicators - are generally data based expressions of the frequency of occurrence of some events, incidents or reports. There is no single safety performance indicator that is appropriate to all organizations. The indicator(s) chosen should correspond to the relevant safety goals.
- ✓ Acceptable Level of Safety (ALOS) - is the expression of an organization's minimum acceptable safety performance level (s). They are the minimum safety performance that an organization should achieve while conducting their core business functions. Each organization may have a slightly different ALOS which will be commensurate with the complexity of the organization's operational context. Those safety performance indicators which are meant to constitute an organization's ALOS monitoring framework shall be identified accordingly in the SMS manual

#### **Performance Indicators and Acceptable Level of Safety**

- ✓ In alignment with the safety goal established in Chapter 1 of this manual, the company will review the safety performance indicators on a regular basis.
- ✓ Performance indicators would include the following:

<b>No</b>	<b>Performance indicator</b>	<b>Acceptable Level (%)</b>
1	Training facility availability;	Min. 90 %
2	Number of student fail	Max. 15 %
3	Human Error and Violation (Human Factors issues where identified)	Max. 20 %
4	Major findings by external audits.	Max. 30 %

- ✓ The performance indicators shall be reviewed by the management team once every month to review its continuing suitability, adequacy and effectiveness of the SMS and Quality Management System.





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### **Review of Performance Indicators and ALOS**

- ✓ The Quality Control Manager will monitor the performance indicators and ALOS.
- ✓ The performance indicators and ALOS shall be reviewed in the Quality Council (Management Review) on a regular basis.
- ✓ Action plan shall be developed to correct the safety and quality related issue.

### **3.2. THE MANAGEMENT OF CHANGE**

- ✓ SMS programs requires substantial changes which are affecting product safety directly or indirectly to be evaluated and assessed for hazard or risk.
- ✓ Changes can introduce new hazards or risks which can impact the appropriateness or effectiveness of previous risk mitigation.
- ✓ Examples of significant changes which may have an indirect safety risk to the product safety are as follows:
  - Changes of regulatory requirements;
  - Where there are abnormal trends indicator;
  - Where major operational changes are being planned;
  - Significant increase or reduction in production;
  - Change of management personnel;
  - Major internal changes involving management/organization
- ✓ Where major organizational changes are being planned:
  - Major change in System/Process/Procedure;
  - New procedure or products;
  - Introduction of major new equipment/new product.



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### **3.3. CONTINUOUS IMPROVEMENT OF THE SMS**

STTKD monitor and assess the effectiveness of its SMS processes to enable continuous improvement of the overall performance of the SMS.

#### **SMS Audit and Safety Review**

The SMS internal audit shall be planned at the beginning of each year and integrated with the Annual Quality Internal Audit Master Schedule. The SMS internal audit shall be audited at least once a year.

#### **SMS Audit Assessment Checklist**

The SMS internal audit shall make reference to the SMS Assessment Protocol Checklist (reference Appendix 2) which comprises of the following elements:

- ✓ Safety Policy
- ✓ Roles and Responsibilities
- ✓ Safety Targets and Performance Indicators
- ✓ Hazard Identification and Risk Management
- ✓ SMS Training
- ✓ SMS Documentation and Records
- ✓ SMS Audit
- ✓ Emergency Response Plan

#### **Findings and Remedial Actions**

- ✓ Any non conformance relating to the SMS issue shall be documented and administered through the quality audit system.
- ✓ The remedial actions shall be documented under the root cause, corrective action and preventive actions in the quality audit System.



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#### **SMS Auditor Requirement**

- ✓ SMS internal auditors shall be appropriately trained in the SMS requirements. They shall be familiar with the Advisory Circular or guidance materials published by each respective civil aviation authority.
- ✓ SMS auditors shall be company qualified Quality Internal Auditors.

#### **Annual Review of SMS Program**

- ✓ SMS shall be evaluated on an annual basis for its effectiveness.
- ✓ The ERB shall review and evaluate its continuous improvement program on the SMS elements which are showed as follows:
  - Safety policy statement, goals and objectives.
  - Safety performance indicators and acceptable level of safety.
  - Safety Report System.
  - SMS Internal Audit Program.
  - Safety investigations and emergency response

#### **Appendix 7 : SMS assessment Using SMS Manual Questionnaire** (DAC Form SMS-03)



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## **CHAPTER 4 : SAFETY PROMOTION**

The company promotes SMS programs by various means:

- ✓ Intranet homepage;
- ✓ Promotion of company's safety objectives, goals and safety culture;
- ✓ Result of SRB/SAG/Quality meetings;
- ✓ Conveying safety lessons/information;
- ✓ Quality Communications Alerts;
- ✓ Safety Communications Alerts;
- ✓ Integrated SMS/HF training (initial & recurrent), professional development training program, etc.
- ✓ Educating personnel on procedure for hazards reporting
- ✓ QA/SMS Awareness for new employee.

### **4.1. TRAINING AND EDUCATION**

- ✓ Safety training and education is an essential foundation for the development and maintenance of a safety culture.
- ✓ The Quality Control Manager should, in conjunction with the personnel department or functional heads, review the job descriptions of all staffs, and identify those positions that have safety responsibilities.
- ✓ These should include operational personnel, Managers/Supervisor and the Accountable Manager.
- ✓ The level/mode of training should be appropriate to the individual's involvement in the SMS. This is to ensure that relevant personnel are trained and competent to perform their SMS duties.



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- ✓ All company employees whose work affects the product integrity and quality shall be trained and be knowledgeable in SMS programs.
- ✓ SMS training may possibly be integrated with related training programs such as Human Factor Error Management and Quality Management System, etc.
- ✓ The scope of SMS training:
  - **Quality Control Manager** – Should attend a formal comprehensive SMS training Course.
  - **Operational personnel** - (For personnel involved in safety assessments) SMS fundamentals, organization safety policy, organization SMS overview, hazard identification and risk management.
  - **Managers & supervisors** - Organizational safety standards and national regulations, management commitment and responsibilities, safety assurance, management of change.
  - **Accountable manager** - Awareness of SMS roles and responsibilities, safety policy, SMS requirements and safety assurance.
  - **SMS Auditors** – Internal auditors to comply with SMS Manual 14.3

### 4.2. SAFETY COMMUNICATION

STTKD develop and maintain formal means for safety communications that:

- a. Ensures personnel are aware of the SMS to a degree commensurate with their positions
- b. Conveys safety critical information,
- c. Explains why practical safety actions are taken, and
- d. Explains why safety procedure are introduced or changed.



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## Appendix 1 – Hazard/ Safety Report (Risk Assessment and Mitigation) Form

### Part A - Hazard/ Safety Report

#### CONFIDENTIAL HAZARD/ SAFETY REPORT FORM (RISK ASSESSMENT AND MITIGATION PROCESS)

This information Supplied in this form will only be use to enhance safety. On receipt of this form your name and position will be removed and discarded. Under no circumstances will your identity be disclosed to any person in this company or to any other organization, agency or person without your express permission.

Name : \_\_\_\_\_

Position : \_\_\_\_\_

If you need confidential ----- (cut hire)

[Name and position to be discarded by the Safety Officer]

#### PART A TO BE COMPLETED BY THE PERSON IDENTIFYING THE HAZARD

Date of occurrence : \_\_\_\_\_

Local time : \_\_\_\_\_

Location : \_\_\_\_\_

**Please fully describe the hazard object, condition, activity or occurrence:**

Include your suggestions on how to prevent similar occurrences

---

---

---

---

In your opinion, what is likelihood of a similar occurrence happening again?

What do you consider could be the worst possible consequence if this occurrence did happen again?

(In your opinion, please select the risk index by "marking the circle" in the following table)

(Menurut pendapat anda, Risk index yang tepat terhadap kondisi bahaya diatas adalah:)

Risk probability	Risk severity				
	Catastrophic A	Hazardous B	Major C	Minor D	Negligible 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 (in your opinion) is:



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### Part B and C - Risk Assessment and Mitigation

#### PART B TO BE COMPLETED BY THE SAFETY OFFICER

The report has been de-identified and entered into the company database

Date : \_\_\_\_\_

Name : \_\_\_\_\_

Signature : \_\_\_\_\_

#### PART C TO BE COMPLETED BY THE SAFETY COMMITTEE (SAG/ SRB MEETING)

Risk probability	Risk severity				
	Catastrophic A	Hazardous B	Major C	Minor D	Negligible 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

What action to **ELIMINATE** or **CONTROL** or **MITIGATE** the hazard and **PREVENT** injury? Or

What **RESOURCE REQUIRED** to **ELIMINATE** or **CONTROL** or **MITIGATE** the hazard and **PREVENT** injury?

(By provide Facility/ equipment, Training/ Briefing, or Revise Procedures/ SOP/ Placard, Ect).

Mitigation decisions may be taken in a meeting of the SAG or SRB.

Provide Facility/ equipment: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Provide Training/ Briefing: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Revise Procedure/ SOP/ Placard: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

FINALLY RISK INDEX:  (After mitigation implemented).

Signed by Accountable Manager/ Safety Manager : \_\_\_\_\_ Safety Meeting Date: \_\_\_\_\_

Appropriate feedback given to staff. Signed : \_\_\_\_\_ Date: \_\_\_\_\_





## DATA BASE HAZARD IDENTIFICATION

Date : May 9<sup>th</sup>, 2017



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## **Appendix 3 – Reserved**



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### Appendix 4 – Safety Audit Program and Frequency

SMS - SAFETY AUDIT PROGRAM AND FREQUENCY (FOR STTKD 147 ORGANIZATION)													
No	AUDIT AREA/ MONTH	JAN	FEB	MAR	APR	MEI	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	Management and Administration (147) Management and Personnel TC Organization Chart (147)												
2	Training Procedure Manual (TPM) (147)												
3	Classroom & Training Classroom Equipment (147) Training Facilities requirements (147) Facilities and Equipment (147)												
4	Personnel and Instructor Qualification (147) Instructor & Evaluator (147)												
5	Quality Control (147)												
6	Technical Publication & Library (147) Reference Material (147)												
7	Type Training, Curriculum and Syllabus (147) Prerequisite, Curriculum & Syllabus (147)												
8	Document, Records and reports (147) Record (147)												
9	Examinations development and evaluation (147)												
10	Graduation and certificate issued (147)												
11	Display Certificates & Advertizing (147)												
12	Safety Management System (SMS) (147)												



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### Appendix 5 – STTKD 147 – SMS Audit Assessment Checklist

STTKD 147 - SMS AUDIT ASSESSMENT CHECKLIST (SHEET 1)					
Area	AUDIT AREA	References CASR	S	U	Finding Remark
1	<b>Management and Administration :</b> The employment as management position required by CASR Part 147 The STTKD Manual cover the duties, responsibilities, authorized of personnel. Operation Specifications Limited. Memorandum of agreement and contractual.				
2	<b>Training Procedure Manual:</b> System for amendments. Manual holder name and copy number. Organizational chart and description of the duties and responsibilities of the reporting levels listed on the organizational chart; Simple floor plan of the facility, showing the location of the, classrooms and offices, and a general description of facilities. Instructor qualifications; Description of the QC system that ensures the policies and procedures are effectively in place; Copy of the course curriculum; Sample copies of examination questions. Student attendance and grades. Exception of attendance. Procedure for development of examinations. Sample of copy graduation certificate. Authorized to sign certificate. Procedure for student admission. Procedure to control type training course. List of reference materials. Description of training aids available. Safety procedure.				
3	<b>Classroom &amp; Training Classroom Equipment :</b> Proper cooling, ventilation and lighting. Separated classroom from workshop, labs and other specialty areas. Suitable sating and writing. Overhead projector and screen. Slide film projector video player and monitor. Wall charts. Visual training aids.				
4	<b>Personnel and Instructor Qualification :</b> Appropriate personnel roster. Appropriate number of instructor. Experience of instructor. Chief instructor qualifications. Assistant chief instructor qualifications. Check instructor qualifications. License and certificate instructor. Implementation policies & procedure to ensure evaluation of instructor.. Updating of instructor knowledge.				



**SAFETY MANAGEMENT SYSTEM**  
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Area	AUDIT AREA	References CASR	S	U	Finding Remark
5	<b>Training Facilities Requirements :</b> Aircraft requirements. Airports. Flight simulators, flight training devices, and training aids. Ground training facilities. Briefing areas. Maintenance of personnel, facilities, and equipment.				

S=Satisfactory; U=Unsatisfactory





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### SAFETY MANAGEMENT SYSTEM MANUAL APPENDIX

#### STTKD 147 - SMS AUDIT ASSESSMENT CHECKLIST (SHEET 2)

Area	AUDIT AREA	References CASR	S	U	Finding Remark
6	<b>Technical Publication &amp; Library :</b> All publication pertinent to each training course available and up-to-date. Complete set of aircraft operation manual for primary training				
7	<b>Type Training, Curriculum and Syllabus :</b> Approval curriculum and change curriculum The minimum curriculum requirements The training course for which approval is requested must meet the minimum training time Contain training course Special curricula authorized by the Director General				
8	<b>Document, Records and reports :</b> Recording system and keeping. School certificate Scope of Approval Facility use agreement Type of advertisement Instructor records - Student records - Enrollment certificates - Aircraft records (including aircraft check list) - Practical Test Standards (PTS); and - The Training Course Outline (TCO) revisions (must match revisions in DGAC file).				
9	<b>Examinations development and evaluation :</b> Examination procedure and implementation - The examining authority to the holder of a school certificate, and the privileges and limitations of that examining authority. Written test or combination written & oral and test examining authority evaluation. Acceptable Written Testing Methods Written Test Book Testing Method Computer Testing Method Test Examining Authority Passing grade graduation.				
10	<b>Graduation and certificate issued :</b> Graduation certificate in accordance with Training procedure manual.				
DATE :		Safety manager/ QC Inspector:			

S=Satisfactory; U=Unsatisfactory



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## **Appendix 6 – RESERVED**



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### Appendix 7: SMSM Questionnaire – SMS Compliance Checklist (DAC Form SMS-03)

**This SMS Manual has been made and evaluated with DGCA SMS MANUAL QUESTIONNAIRE (DAC Form SMS-03)**

SMS MANUAL CONTENTS			
1.	Document Control	9.	Hazard Identification and Risk Assessment
2.	SMS Regulatory Requirements	10.	Performance Indicators
3.	Scope of the Safety Management System	11.	Safety Investigations
4.	Safety Policy	12.	Staff Training
5.	Safety Objectives and Goals	13.	SMS Audit
6.	Roles and Responsibility	14.	SMS Data and Records Management
7.	Non-Punitive Reporting Policy	15.	Management Of Changes
8.	Safety Reporting	16.	ERP

1. Document Control		
SMS Manual Contents	SMS Chapter	Remarks
1. Hard Copy or controlled electronic media are used for manual distribution	YES	Manual Distribution, Control and Revision Process
2. The initial correlation of this manual with other approved documentation, such as :	YES	Correlation of This Manual with Other Approved Documentation
a) TPM	NA	
b) Maintenance Control Manual	YES	Correlation of This Manual with Other Approved Documentation
c) Operation Manual	YES	Periodically Review The SMS Manual
3. There is a process for periodic review of other SMS related documentation and manuals to ensure their continuing suitability, adequacy and effectiveness	YES	Document Control
4. This manual is readily accessible by personnel	YES	
2. SMS Regulatory Requirement		
1. Spell out current DGCA SMS regulations standards. Include compliances timeframe and advisory material references as applicable.	YES	Chapter 1.1. Management Commitment and Responsibility Safety Policy
2. Where appropriate to elaborate or explain the significance and implications of those regulations to the organizations.	NIL	Not Appropriate
3. Where relevant, correlation to other safety related requirements or standards may be highlighted.	NIL	Not Relevant
3. Scope of the Safety Management System		
1. Spell out nature of the Organization's aviation business and its position or role within the industry as a whole.	YES	Chapter 1.1. Management Commitment and Responsibility Safety Policy
2. Identify equipment, facilities, work scope, capabilities and other relevant aspect of the organization within which the SMS will apply.	YES	Chapter 1.1. Management Commitment and Responsibility Safety Policy
3. Where the SMS is expected to be operated or administed across a group of interlinked organizations, such integration unit associated accountabilities is to be clearly defined and documented.	YES	Chapter 1.1. Management Commitment and Responsibility Safety Policy Note. STTKD operated under CASR147 Organization.



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4. Where there are related control/management system within the organization such as ISO9000, HFEM, OHSAS, OMS etc, their relevant integration (where applicable within the SMS should be identified.	N/A	STTKD has not collaborated with ISO 9000 or K3 or other management system.
<b>4. Safety Policy</b>		
1. The Safety Policy should be appropriate to the size and complexity of the organization.	YES	Chapter 1.1. Management Commitment and Responsibility 1.2. Safety Accountabilities
2. The Safety Policy states the organization's intentions, management principles and commitment to continuous improvement in the safety	YES	Chapter 1.1. Management Commitment and Responsibility Non Punitive Reporting Policy
3. The Safety Policy is approved by the Accountable Manager.	YES	Chapter 1.1. Management Commitment and Responsibility Non Punitive Reporting Policy
4. The Safety Policy is promoted by the Accountable Manager	YES	Chapter 1.1. Management Commitment and Responsibility Non Punitive Reporting Policy
5. The Safety Policy is reviewed periodically.	YES	Chapter 1.1. Management Commitment and Responsibility Non Punitive Reporting Policy
6. The Safety Policy at all level are involved in the establishment and maintenance of the Safety Management System.	YES	Chapter 1.1. Management Commitment and Responsibility Non Punitive Reporting Policy
7. The Safety Policy is communicated to all employees with the intent that they are made aware of their individual safety obligations.	YES	Chapter 1.1. Management Commitment and Responsibility Non Punitive Reporting Policy
8. The Safety Policy should be sign by the Accountable Manager.	YES	Chapter 1.1. Management Commitment and Responsibility Non Punitive Reporting Policy
<b>5. Safety Objectives and Goals</b>		
1. Safety Objectives have been established.	YES	Chapter 1.1. Management Commitment and Responsibility Safety Objectives and Goals
2. Safety Objectives are expressed as a top-level statement describing the organization's commitment to achieving safety.	YES	Chapter 1.1. Management Commitment and Responsibility Safety Objectives and Goals
3. There is a formal process to develop coherent set of safety goals or benchmark/alert level necessary to monitor safety performance.	YES	Chapter 1.1. Management Commitment and Responsibility Safety Objectives and Safety Goals Safety Goals (Acceptable Level of Safety)
4. Safety Objectives and goals are publicized and distributed.	YES	Chapter 1.1. Management Commitment and Responsibility Safety Objectives
5. Resources have been allocated for achieving the objectives & goals.	YES	Chapter 1.1. Management Commitment and Responsibility Safety Objectives
<b>6. Roles and Responsibilities</b>		
1. The Accountable Manager is responsible for ensuring that the SMS is properly implemented and performing to requirements in all area of the organization.	YES	Chapter 1.2. Safety Accountabilities Accountable Manager
2. Appropriate Safety Manager (office), Safety Committee or Safety Action Groups have been appointed as appropriate.	YES	Chapter 1.2. Safety Accountabilities Safety Action Group
3. Safety authorities, responsibilities and accountabilities of personnel at all levels of the organization are defined and documented.	YES	Chapter 1.2. Safety Accountabilities Accountable Manager Safety Review Board Safety Action Group
4. Safety authorities, responsibilities and accountabilities are promulgated to all personnel in key documentation and communication media.	YES	Chapter 1.2. Safety Accountabilities Safety Review Board Safety Action Group SMS Accountabilities Chart



# SAFETY MANAGEMENT SYSTEM

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5. All personnel understand their authorities, responsibilities and accountabilities in regards to all safety management processes, decision and actions.	YES	Chapter 1.2. Safety Accountabilities List of Key SMS Personnel SMS Accountabilities Chart
6. A SMS organizational accountabilities diagram is available.	YES	Chapter 1.2. Safety Accountabilities SMS Accountabilities Chart
<b>7. Non-Punitive Reporting Policy</b>		
1. There is a policy in place that encourages employees to report errors, safety deficiencies, hazard or occurrences.	YES	Chapter 1.1. Non Punitive Policy
2. Conditions under which punitive disciplinary action would be considered (e.g: illegal activity, recklessness, gross negligence or wishful misconduct) are clearly defined.	YES	Chapter 1.1. Non Punitive Policy
3. The policy is widely understood within the organization.	YES	Chapter 1.1. Non Punitive Policy
<b>8. Safety Reporting</b>		
1. The organization has a process or system that provides for the capture of internal information including incidents, accidents, hazards and other data relevant to SMS.	YES	Chapter 2.1. Hazard Identification Safety Reporting System Examples of Safety Reporting
2. The reporting process is simple, accessible and commensurate with the size of the organization.	YES	Chapter 2.1. Hazard Identification Safety Reporting System Examples of Safety Reporting
3. Reports are reviewed at the appropriate level of organization.	YES	Chapter 2.1. Hazard Identification Safety Reporting System Examples of Safety Reporting
There is a feedback process to notify contributors that their reports have been received and to share the results of the analysis.	YES	Chapter 2.1. Hazard Identification Safety Reporting System Examples of Safety Reporting
5. The Report form(s) is(are) simple, standardized and accessible across the organization..	YES	Chapter 2.1. Hazard Identification Safety Reporting System Examples of Safety Reporting
6. There is a process to ensure that information is received from all areas of organization within the scope of the SMS.	YES	Chapter 2.1. Hazard Identification Safety Reporting System Examples of Safety Reporting
7. There is a process in place to monitor and analyze trends.	YES	Chapter 2.1. Hazard Identification Safety Reporting System Examples of Safety Reporting
8. The organization has a process for the systematic investigation and analysis of operational conditions or activities that have been identified as potential hazards,	YES	Chapter 2.1. Hazard Identification Safety Reporting System Examples of Safety Reporting
<b>9. Hazard Identification and Risk Assessment</b>		
1. There is a structured process for the assessment of risk associated with identified hazards, expressed in term of consequences (severity) and likelihood (probability of occurrence) or any equivalent matrix.	YES	Chapter 2. Safety Risk Management 2.1. Hazard Identification 2.2. Safety Risk Assessment & Mitigation
2. There is criterion for evaluating risk and the tolerable level of risk the organization is willing to accept together with any mitigating factors.	YES	Chapter 2. Safety Risk Management 2.1. Hazard Identification 2.2. Safety Risk Assessment & Mitigation
3. The organization has risk control strategies that includes corrective, preventive and recovery action plans..	YES	Chapter 2. Safety Risk Management 2.1. Hazard Identification 2.2. Safety Risk Assessment & Mitigation
4. The organization has a process for evaluating and updating the effectiveness of the corrective, preventive and recovery measures that have been developed.	YES	Chapter 2. Safety Risk Management 2.1. Hazard Identification 2.2. Safety Risk Assessment & Mitigation
5. Corrective, preventive and recovery actions, including timelines are documented.	YES	Chapter 2. Safety Risk Management 2.1. Hazard Identification 2.2. Safety Risk Assessment & Mitigation
<b>10. Performance Indicator</b>		
1. There is a formal process to develop and maintain a set of safety performance indicators for trend and target monitoring.	YES	Chapter 3.1. Safety Performance Monitoring And Measurement Performance Indicators and Acceptable level



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		of Safety
2. Periodic planned reviews of company safety performance indicators including an examination of the company's SMS to ensure its continuing suitability, adequacy and effectiveness	YES	Chapter 3.1. Safety Performance Monitoring And Measurement Performance Indicators and Acceptable level of Safety
<b>11. Safety Investigations</b>		
1. Measure exists that ensure reported occurrences and incidents are investigated where applicable.	YES	Chapter 2.1. Hazard Identification Safety Reporting System Examples of Safety Reporting
2. There is a process to ensure that such investigations include identification of active failures as well as contributing org. factors.	YES	Chapter 2.1. Hazard Identification Safety Reporting System Examples of Safety Reporting
3. Investigation procedure and format includes the integrations of safety related finding with the SMS. This ensures that appropriate SMS follow up action on related as well as unrelated hazard or risk uncovered during the course of investigations are addressed.	YES	Chapter 2.1. Hazard Identification Safety Reporting System Examples of Safety Reporting
<b>12. Staff Training</b>		
1. Training requirements are documented.	YES	Chapter 4.1. Training And Education
2. There is a validation process that measures the effectiveness of training.	YES	Chapter 4.1. Training And Education
3. The training includes initial, recurrent and update training as applicable.	YES	Chapter 4.1. Training And Education
4. The organization's SMS training is part of the organization's overall training program	YES	Chapter 4.1. Training And Education
5. SMS awareness is incorporated into employment or indo.program.	YES	Chapter 4.1. Training And Education
<b>13. SMS Audit</b>		
There are planned regular audit reviews of company safety performance including an examination of the company's SMS to ensure its continuing, suitability, adequacy and effectiveness.	YES	Chapter 3.3. Continuous Improvement Of The SMS SMS Audit and Safety Review SMS Audit Assessment Checklist Findings and Remedial Actions SMS Auditor Requirement Annual Review of SMS Program
2. Detail of personnel involve in audit a) Qualifications b) Frequency c) Audit Program d) Audit Reports e) Corrective Action Procedures	YES	Chapter 3.3. Continuous Improvement Of The SMS SMS Audit and Safety Review SMS Audit Assessment Checklist Findings and Remedial Actions SMS Auditor Requirement Annual Review of SMS Program
<b>14. SMS Data and Records Management</b>		
1. The org. has a records system that ensures that generation and retention of all records necessary to document and support the SMS.	YES	Chapter 1.5. SMS Documentation SMS Records Retention
2. Records kept include : a) Hazards Register; b) Risk Assessment Reports; c) SAG/SRB meeting notes; d) Safety Performance Monitoring Charts; e) SMS Audit Reports; f) SMS Training Records	YES	Chapter 1.5. SMS Documentation SMS Records Retention
<b>15. Management of Change</b>		
1. The organization has a standard procedure or policy to perform safety assessment for all substantial internal or external changes which may have safety implications.	YES	Chapter 3.2. The Management Of Change
2. There is procedure for performing safety assessment prior to introduction of new equipment or processes which may have safety implications before they are commissioned.	YES	Chapter 3.2. The Management Of Change
3. All concern stake holders within or without the organization are involved in such reviews. All such reviews are documented and approved by management as applicable.	YES	Chapter 3.2. The Management Of Change





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16. Emergency Response Plan		
1. The organization has an emergency plan that outlines roles and responsibilities in the event of an accident.	YES	Chapter 1.4. Coordination Of Emergency Response Planning
2. There is a notification process that includes an emergency call list and an internal mobilization process	YES	Chapter 1.4. Coordination Of Emergency Response Planning
3. The organization has arrangement with other agencies for aid and the provisions of emergency services as applicable.	YES	Chapter 1.4. Coordination Of Emergency Response Planning
4. The organization has procedures for emergency mode operations where applicable.	YES	Chapter 1.4. Coordination Of Emergency Response Planning
5. There is a procedure for overseeing the welfare of all affected individuals and for notifying next of kin.	YES	Chapter 1.4. Coordination Of Emergency Response Planning
6. The organization has established procedures for handling media and insurance related issues.	YES	Chapter 1.4. Coordination Of Emergency Response Planning
7. There are defined accident investigation responsibilities within the organization.	YES	Chapter 1.4. Coordination Of Emergency Response Planning
8. The requirement for preservation of evidence securing affected area and mandatory/governmental reporting is clearly stated.	YES	Chapter 1.4. Coordination Of Emergency Response Planning
9. There is emergency preparedness and response training for affected personnel.	YES	Chapter 1.4. Coordination Of Emergency Response Planning
10. A disabled A/C or equip. evacuation plan is developed by the org. in consultation with A/C owner, aerodrome opr or other agencies as applicable.	YES	Chapter 1.4. Coordination Of Emergency Response Planning
11. A procedure exists for recording activities during an emergency response.	YES	Chapter 1.4. Coordination Of Emergency Response Planning

**Yogyakarta, 9 May 2017**

**Quality Control Manager**



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