CÔNG TY CỔ PHẦN HÀNG KHÔNG TRE VIỆT

TÀI LIỆU
HỆ THỐNG QUẢN LÝ AN TOÀN
SAFETY MANAGEMENT SYSTEM MANUAL

Manual Code:	BAS-SMSM		
Issue Number:	03	Issue date:	27 Dec 2021
Revision Number:	00	Revision date:	27 Dec 2021

BỘ GIAO THÔNG VẬN TẢI
CỤC HÀNG KHÔNG VIỆT NAM

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc

Số: 2488 /QĐ-CHK

Hà Nội, ngày 30 tháng 12 năm 2021

QUYẾT ĐỊNH
Về việc phê chuẩn Tài liệu hệ thống quản lý an toàn (SMS) ban hành số 03, sửa đổi số 00 của Công ty Cổ phần Hàng không Tre Việt

CỤC TRƯỞNG CỤC HÀNG KHÔNG VIỆT NAM

Căn cứ Nghị định số 66/2015/NĐ-CP ngày 12/08/2015 của Thủ tướng Chính phủ quy định về nhà chức trách hàng không;

Căn cứ Thông tư 01/2011/TT-BGTVT ngày 27/11/2011 ban hành Bộ quy chế an toàn hàng không dân dụng lĩnh vực tàu bay và khai thác tàu bay và Thông tư số 03/2016/TT-BGTVT ngày 31/03/2016, Thông tư số 21/2017/TT-BGTVT ngày 25/08/2017, Thông tư số 56/2018/TT-BGTVT ngày 11/12/2018 và Thông tư số 42/2020/TT-BGTVT ngày 31/12/2020 về việc sửa đổi, bổ sung một số điều của Bộ quy chế an toàn hàng không dân dụng lĩnh vực tàu bay và khai thác tàu bay của Bộ trưởng Bộ Giao thông vận tải;

Căn cứ Quyết định số 2606/QĐ-BGTVT ngày 07/09/2017 của Bộ trưởng Bộ Giao thông vận tải quy định chức năng, nhiệm vụ, quyền hạn và cơ cấu tổ chức của Cục Hàng không Việt Nam và Quyết định số 1055/QĐ-BGTVT ngày 31/05/2019 của Bộ trưởng Bộ Giao thông vận tải về việc sửa đổi, bổ sung Quyết định số 2606/QĐ-BGTVT ngày 07/09/2017;

Xét đề nghị của Công ty Cổ phần Hàng không Tre Việt;

Theo đề nghị của Trưởng phòng Tiêu chuẩn an toàn bay.

QUYẾT ĐỊNH:

Điều 1. Phê chuẩn Tài liệu hệ thống quản lý an toàn (Safety Management System) ban hành số 03, sửa đổi số 00 của Công ty Cổ phần Hàng không Tre Việt.

Điều 2. Quyết định này có hiệu lực kể từ ngày ký.

Điều 3. Trưởng phòng Tiêu chuẩn an toàn bay - Cục Hàng không Việt Nam, Công ty Cổ phần Hàng không Tre Việt, các tổ chức và cá nhân liên quan chịu trách nhiệm thi hành quyết định này./.

Nơi nhận:
- Như Điều 3;
- Cục trưởng (để báo cáo);
- Lưu: VT, TCATB (Tl03b).

KT. CỤC TRƯỞNG
PHÓ CỤC TRƯỞNG

Võ Huy Cường

CÔNG TY CỔ PHẦN HÀNG KHÔNG TRE VIỆT	**CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM**
Số: 334 /2021/QĐ - TGĐ	**Độc lập - Tự do - Hạnh phúc**
	Hà Nội, ngày 31 tháng 12 năm 2021

QUYẾT ĐỊNH

V/v: Ban hành tài liệu **"Tài liệu hệ thống quản lý an toàn (SMSM) ban hành 03, sửa đổi 00" của Công ty cổ phần Hàng không Tre Việt**

TỔNG GIÁM ĐỐC CÔNG TY CỔ PHẦN HÀNG KHÔNG TRE VIỆT

- *Căn cứ Luật Doanh nghiệp năm 2014 và các văn bản hướng dẫn thi hành;*
- *Căn cứ vào Quyết định số 2488 /QĐ-CHK ngày 30 tháng 12 năm 2021 của Cục HK về việc phê chuẩn Tài liệu hệ thống quản lý an toàn – Safety Management System Manual (SMSM) ban hành 03 sửa đổi 00 của Công ty cổ phần Hàng không Tre Việt;*
- *Căn cứ Điều lệ của Công ty cổ phần Hàng không Tre Việt;*
- *Căn cứ chức năng, nhiệm vụ, quyền hạn của Tổng Giám đốc Công ty cổ phần Hàng không Tre Việt;*
- *Xét đề nghị của Ban An toàn chất lượng;*

QUYẾT ĐỊNH:

Điều 1. Ban hành kèm theo quyết định này ***"Tài liệu hệ thống quản lý an toàn – Safety Management System Manual (SMSM)"*** lần 03, sửa đổi lần 00 của Công ty Cổ phần Hàng không Tre Việt.

Điều 2. Quyết định này có hiệu lực sau 03 ngày kể từ ngày ký và thay thế cho các Quyết định cũ trước đó.

Điều 3. Các Ông (Bà) thành viên Ban Tổng Giám đốc, Giám đốc An toàn chất lượng, Giám đốc khai thác bay, Giám đốc Khối Kỹ thuật & Bảo dưỡng, Giám đốc thương mại, Giám đốc khai thác mặt đất, Giám đốc đào tạo. Trưởng các đơn vị, phòng, ban liên quan chịu trách nhiệm thi hành Quyết định này./.

Nơi nhận:
- Như Điều 3 (để t/h);
- Ban TGĐ (để b/c);
- Lưu VT, SQA,

TỔNG GIÁM ĐỐC

CÔNG TY CỔ PHẦN HÀNG KHÔNG TRE VIỆT
BAMBOO AIRWAYS
M.S.D.N: 2107867370

Đặng Tất Thắng

CHAPTER 0 GENERAL INTRODUCTION

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PREPARED BY SQA	REVIEWED BY SQA	ACCEPTED BY CAAV
Tittle: SSD Manager Signature:	Tittle: SQA Director Signature:	Tittle: A.S.E Signature:
Name: Tran Quoc Hung Date: 27/12/2021	Name: Nguyen Trinh Binh Date: 27/12/2021	Name: Nguyễn Quốc Thắng Date 30/12/2021 CAAV/FSSD CONTROL

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PREPARED BY SQA	REVIEWED BY SQA	ACCEPTED BY CAAV
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PREPARED BY SQA	REVIEWED BY SQA	ACCEPTED BY CAAV
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Date: 27/12/2021	Date: 27/12/2021	Date 30/12/2021

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PREPARED BY SQA	REVIEWED BY SQA	ACCEPTED BY CAAV
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Date: 27/12/2021	Date: 27/12/2021	Date 30/12/2021

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Tittle: SSD Manager	Tittle: SQA Director	Tittle:
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Date: 27/12/2021	Date: 27/12/2021	Date 30/12/2021

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PREPARED BY SQA	REVIEWED BY SQA	APPROVED SAFETY POST HOLDER
Tittle: SSD - Executive Signature: Name: Tran Duc Son Date:	Tittle: SSD – Manager Signature: Name: Tran Quoc Hung Date:	Tittle: SQA Director Signature: Name: Nguyen Trinh Binh Date:

0.6 LIST OF NORMAL REVISIONS

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01	00	21 Dec 2018	CAAV
01	01	25 Apr 2019	CAAV
02	00	01 Oct 2019	CAAV
02	01	19 Nov 2020	CAAV
02	02	05 Apr 2021	CAAV
02	03	24 Sep 2021	CAAV
03	00		CAAV

0.7 LIST OF TEMPORARY REVISONS

Issue number	Temporary Revision number	Temporary Revision date

0.8 LIST OF SIGNIFICANT CHANGES

Section/item	List of significant changes
0.16	Updated Definition of Top management/Board of Management/Senior management
5.1	Updated Safety accountabilities & Key personnel commitment
5.3	Updated Figure 5-1 Organization Chart
5.5	Updated Authorities/ Accountabilities/ Responsibilities of Accountable manager/CEO
5.7	Updated Authorities/ Accountabilities/ Responsibilities of Safety Postholder (SQA Director)
5.8	Updated Authorities/ Accountabilities/ Responsibilities of Postholder of Flight operation, Maintenance and Ground Operation
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5.11	Updated Authorities/ Accountabilities/ Responsibilities of Safety Officer at Divisions departments
5.12	Updated Authorities/ Accountabilities/ Responsibilities of Divisions/ Departments
5.15	Updated ASC activities
5.18	Updated SAG compositions, meeting agenda
8.1	Updated Purpose of Safety risk management
8.2	Updated Hazard identification and Risk assessment procedures – Safety database
9.5	Updated Management of change
11.1	Updated SMS training

0.9 LIST OF TEMPORARY SIGNIFICANT CHANGES

Section (No. Page)	List of Temporary Significant Changes

0.10 LIST OF DISTRIBUTIONS

No	Holder	Quantity	Remark
1	Flight Safety and Standards Division (CAAV)	01 hard copy	01 hard & Soft
2	CEO	01	Soft
3	Director of Flight Operations	01	Soft
4	Human resources Department	01	Soft
5	Security, Safety, Quality Assurance Division	01 hard copy	01 hard & Soft
6	Cabin Crew Division	01	Soft
7	Flight Crew Division	01	Soft
8	Training centre	01	Soft
9	Maintenance Centre	01	Soft
10	Ground Operation Unit	01	Soft
11	Cargo Operation Department	01	Soft
12	Investment & Procurement Division	01	Soft
13	Information Technology Division	01	Soft
14	Legal & Insurance Division	01	Soft
15	Technical Division	01	Soft
16	Operation Control Centre	01	Soft
17	Bamboo Airways Stations	01 per sation	Soft

0.11 GENERAL

a) Safety management system manual is the highest level safety manual of BAV. This manual describes BAV safety policies, methods and procedures for SMS implementation and operation within BAV.

b) Together with the safety quality policy and the quality manual, SMSM establishes commitments, responsibilities and company level procedures of the two management systems: Safety management system and quality system.

c) This Manual addresses the required elements for an approved SMS, as described in ICAO Doc 9859 SMM and CAAV's AC-01-003: Development of Acceptable Safety Management System. The four major components are:

   1) Safety Policy, Objectives and Planning;

   2) Hazard Identification and Risk Management;

   3) Safety Assurance;

   4) Safety Training and Promotion.

d) The SMSM includes the organizational structure, responsibilities, procedures and resources for implementing a SMS and outlines organizational policy, objectives and activities for meeting the requirements of the system.

e) This SMSM applies to management and all BAV staff employed in any capacity (full-time, part-time or casual). In addition, it is expected that contractors' and service provider's personnel shall abide by the procedures contained in this Manual at least in respect to the provision of services under contract.

f) SMSM of BAV and its subsequent revisions are subject to CAAV approval.

g) All the revision of SMSM will be updated to all BAV' staff or contractors/ service provider (if provide) and ensure the most current version is distributed to all.

0.12 REFERENCE DOCUMENTS

a) ICAO Annex 19 – Safety Management; Annex 13 – Aircraft Accident and Incident Investigation; Annex 06 – Operation of Aircraft.

b) ICAO Doc 9859 Safety Management Manual;

c) State Safety Program;

d) Vietnam Aviation Regulations, AC-01-003 on SMS, AC-12-004 on Flight safety document system;

e) Decree 75/2007/ND-CP dated 9/5/2007 on Civil aircraft accident and incident investigation;

f) CAAV Mandatory Occurrence Reporting Scheme;

g) Other related regulations.

0.13 FLIGHT SAFETY DOCUMENT SYSTEM

[Reference: VAR 12.067, AC 12-004]

0.13.1 Policy

a) BAV shall maintain the Flight Safety Documents System (FSDS) that provides consistent policy and procedures to its personnel through an integrated manual system to ensure the highest degree of safety in the operations.

b) BAV shall establish a flight safety documents system, for the use and guidance of operational and maintenance personnel, as part of its safety management system [VAR 12.075 (e)(1)].

c) Flight Safety Document System is defined as a set of inter-related documentation (Operations policy manual, Operation manuals, Routes & aerodromes, Training Manuals) established by BAV. The hierarchy of flight safety document system is shown below:

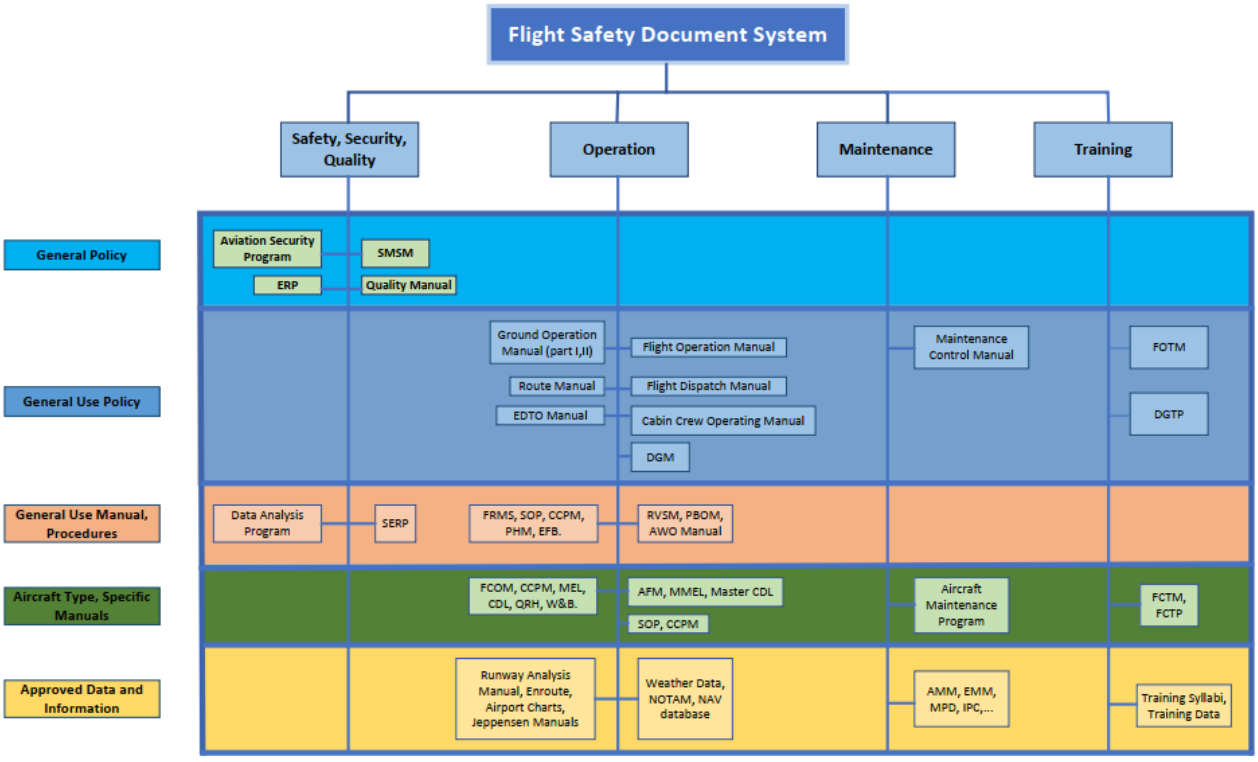

Figure 0-1 Flight Safety Document System Chart

0.14 REVISION AND UPDATE

0.14.1 General

a) The SQA Director reviews amendments to this manual. All amendments to this manual shall be submitted to CAAV for approval before any changes are implemented.

b) This Manual will be revised and updated as necessary when the relevant laws or requirements change. The revisions done on this manual shall be reviewed by the SQA Director before they are submitted to CAAV for approval.

c) Amendments of SMM in hard copy must be in the form of printed replacement pages; pen and ink amendments are not permitted.

d) Revision pages will be annotated to show the effective date, the revision number and the portion of the text which has been revised or new text inserted, as indicated by vertical marginal lines on the left hand side of the page adjacent to the changes. Each amendment will be accompanied by a revised list of effective pages, with their date of issue, and by a certificate of receipt/incorporation. A record of revisions will be maintained at the front of each manual

0.14.2 Approval of CAAV to revision and update

All subsequent revisions and updates to this manual must be approved by CAAV before implementation. In special cases, to maintain safety or for minor changes to the manual, CEO or his/her authorized person can approve revisions to the manual and assure that:

a) The revision(s) is/are not in contradiction to the current requirements of CAAV on SMS, and

b) The revision must be submitted formally to CAAV;

c) The revisions must be identified.

0.14.3 Temporary Revision

Temporary revisions that may be urgently required in the interest of safety will be promulgated as bulletins and issued on yellow paper.

Those of a temporary nature will be cancelled as soon as they are no longer relevant. Those of long-term application will be incorporated into the manual when it is next amended, or within six months of their effective date, whichever is the sooner.

0.15 DISTRIBUTION

a) This manual or any other publication is provided to users by SQA according to the distribution list.

b) The users must confirm with SQA when they receive revisions. Records must be maintained by SQA to confirm that instructions are current and updated.

c) Directors and heads of divisions within BAV are responsible for promulgation and providing support so that all staff can access and read the manual as required.

d) This manual or its related parts must be provided to BAV subcontracted service providers, if necessary, by heads of divisions of BAV in order to meet SMS requirements.

e) All the BAV' staff, subcontracted service providers are possibly accessible to this manual.

f) Any recommendations related to this manual should be submitted to SQA at the following address:

Safety Quality Assurance Division – Bamboo Airways

22nd floor, Bamboo Airways Tower, Dich Vong Ward, Cau Giay District, Hanoi Capital, Vietnam.

Email: reports@bambooairways.com

0.16 DEFINITIONS, ACRONYMS & ABBREVIATIONS

a) DEFINITIONS

1) **Accident:** An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with intention of flight until such time as all such persons have disembarked, in which: a person is fatally or seriously injured as a result of:

(i) Being in the aircraft, or

(ii) Direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or

(iii) Direct exposure to jet blast,

Except when the injuries are from natural causes, self-inflicted, or caused by other persons, or when injuries are to stowaways hiding outside the areas normally available to the passengers and crew, or the aircraft sustains damage or structural failure which,

(iv) Adversely affects the structural strength, performance or flight characteristics of the aircraft, and

(v) Would normally require major repair or replacement of the affected component,

Except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tyres, brakes, fairings, small dents or puncture holes in the aircraft skin; or the aircraft is missing or is completely inaccessible.

Notes:

(vi) For statistical uniformity only, an injury resulting in death within thirty days of the date of the accident is classified as a fatal injury by ICAO.

(vii) An aircraft is considered to be missing when the official search has been terminated and wreckage has not been located.

2) **ALARP**: As Low As Reasonably Practical, means a risk is low enough that attempting to make it lower, or the cost of assessing the improvement gained in an attempted risk reduction, would actually be more costly than any cost likely to come from the risk itself.

3) **Assessment:** The process of observing, recording, and interpreting individual knowledge and performance against a required standard.

4) **Behavioural marker**: A single non-technical skill or competency within a work environment that contributes to effective or ineffective performance**.**

5) **Behavioural marker system**: An organised set of competency descriptors, collectively representing the domain of non-technical skills (NTS) required for successful performance in a specified role.

6) **Change Management**: is a systematic approach to controlling changes to any aspect of processes, procedures, products or services, both from the perspective of an organization and individuals. It's objective is to ensure that safety risks resulting from change are reduced to as low as reasonably practicable.

7) **Competency:** A combination of skills, knowledge and attitudes required to perform a task to the prescribed standard.

8) **Competency standards**: Defined and expressed in outcome terms.

9) **Competency-Based training**: Develops the skills, knowledge and behavior required to meet competency standards.

10) **Competency assessment**: The process of collecting evidence and making judgements as to whether competence has been achieved.

11) **Contract**: An arrangement or agreement between two or more parties enforceable by law. A contract is a legal document which describes commercial terms and conditions.

12) **Consequence:** Outcome or impact of an event.

Notes:

(i) There can be more than one consequence from one event.

(ii) Consequences can range from positive to negative.

(iii) Consequences can be expressed qualitatively or quantitatively.

(iv) Consequences are considered in relation to the achievement of objectives.

13) **Crew Resource Management (CRM)**: A team training and operational philosophy with the objective of ensuring the

effective use of all available resources to achieve safe and efficient flight operations.

14) **Facilitator**: A person who enables learning in a student-centred environment by guiding participants through discussions, interactions, structured exercises and experiences.

15) **Error**: An action or inaction by an operational person that leads to deviations from organizational or the operational person's intentions or expectations.

16) **Error management**: The process of detecting and responding to errors with countermeasures that reduce or eliminate the consequences of errors, and diminish the probability of further errors or undesired states.

17) **Hazard**: A source of potential harm.

18) **Human Factors (HF)**: The minimisation of human error and its consequences by optimising the relationships within systems between people, activities and equipment.

19) **Incident**: An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation.

20) **Inter-rater reliability**: The extent to which two or more individuals (coders or raters) agree. Inter-rater reliability addresses the consistency of the implementation of a rating system.

21) **Just culture**: An organizational perspective that discourages blaming the individual for an honest mistake that contributes to an accident or incident. Sanctions are only applied when there is evidence of a conscious violation or intentional reckless or negligent behavior.

22) **Likelihood:** Used as a general description of probability or frequency.

    Note: Can be expressed qualitatively or quantitatively.

23) **Line-Oriented Flight Training (LOFT):** Refers to aircrew training which involves a full mission simulation of situations which are representative of line operations, with special emphasis on situations which involve communications, management and leadership.

24) **Line Operational Simulation (LOS)**: Widely used to provide opportunities for crews to practice CRM concepts in realistic and challenging simulated flight situations.

25) **Line Operational Safety Audit (LOSA)**: A behavioural observation data gathering technique, which aims to capture data on the performance of flight crews during normal operations.

26) **Management**: Management comprises planning, organizing, resourcing, leading or directing, and controlling an organization (a group of one or more people or entities) or effort for the purpose of accomplishing a goal.

27) **Non-Technical Skills (NTS):** Specific HF competencies such as critical decision-making, team communication, situational awareness and workload management.

NOTECHS: The JAR-FCL framework for structured assessment of non-technical (CRM) skills, Based on, behavioural marker system. NOTECHS was originally designed to fulfil a pan-European requirement under the Joint Aviation Authorities.

28) **Operational safety-critical personnel**: Persons performing or responsible for safety-related work, including those personnel performing roles that have direct contact with the physical operation of the aircraft or with those that have operational contact with personnel who operate the aircraft.

29) **Operational safety-related work**: Safety-related activity in one or more of the following work areas:

(i) Flying an aircraft;

(ii) Cabin crew operations;

(iii) Dispatch of aircraft or crew;

(iv) Development, design, implementation and management of flight operations safety-related processes (including safety investigations); and

(v) Any other duties prescribed by an AOC holder as flight operations safety-related work.

30) **Quality Management System (QMS):** A set of policies, processes and procedures required for planning and execution (production/development/service) in the core business area of an organization.

31) **Risk:** The chance of something happening that will have an impact on objectives.

Notes:

(i) A risk is often specified in terms of an event or circumstance and the consequence that may flow from it.

(ii) Risk is measured in terms of a combination of the consequences of an event, and its likelihood.

(iii) Risk may have a positive or negative impact.

32) **Risk Assessment**: The overall process of risk identification, risk analysis and risk evaluation.

33) **Risk Identification**: The process of determining what, where, when, why and how something could happen.

34) **Risk Management**: The culture, processes and structures that are directed toward realising potential opportunities whilst managing adverse effects.

35) **Safety**: The state in which the probability of harm to persons or of property damage is reduced to, and maintained at, a level which is As Low As Reasonably Practicable (ALARP) through a continuing process of hazard identification and risk management.

36) **Safety Culture**: An enduring set of beliefs, norms, attitudes, and practices within an organization concerned with minimising exposure of the workforce and the general public to dangerous or hazardous conditions. In a positive safety culture, a shared concern for, commitment to, and accountability for safety is promoted.

37) **Safety Management**: May be described as managing the identification and reduction of hazards until they reach the ALARP criteria**.**

38) **Safety Management System (SMS)**: A systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures.

39) **Safety Postholder**: A person responsible for managing all aspects of the operation of the organization's safety management system.

40) **Stakeholders**: Those people and organizations who may affect, be affected by, or perceive themselves to be affected by a decision, activity or risk.

41) **Systemic:** Relating to or affecting an entire system.

42) **System Safety:** The application of engineering and management principles, criteria and techniques to optimise safety by the identification of safety related risks and eliminating or controlling them by design and/or procedures, Based on acceptable system safety precedence.

43) **Threat:** Events or errors that occur beyond the influence of an operational person, increase operational complexity and should be managed to maintain the margin of safety.

44) **Threat and Error Management (TEM):** The process of detecting and responding to threats with countermeasures that reduce or eliminate the consequences of threats, and mitigate the probability of errors or undesired states.

45) **Training:** The process of bringing a person to an agreed standard of proficiency by practice and instruction.

46) **Training Needs Analysis:** The identification of training needs at employee, departmental, or organizational level, in order for the organization to perform effectively.

47) **Unit of competency:** Under Vietnam National Standards, a defined group of competencies required for effective performance in the workplace. A competency comprises the specification of knowledge and skill and the application of that knowledge and skill at an industry level, to the standard of performance required in employment.

48) **Usability:** The effectiveness, efficiency and satisfaction with which users can achieve tasks in a particular environment of a product, equipment or system.

49) **Violation:** Intended or deliberate deviations from rules, regulations or operating procedures. A person committing a violation fully intends their actions. Violations can be one of four different types:

    (i) Routine: common violations promoted by an indifferent environment, “we do it this way all the time”;

    (ii) Optimising: corner-cutting based on the path of least resistance, “I know a better way of doing this”;

    (iii) Exceptional or situational: one-off breaches of standards/regulations dictated by unusual circumstances that are not covered in procedures, “we can’t do this any other way”;

(iv) Or acts of sabotage: acts of harmful intent to life, property of equipment.

50) **Top management/Board of Management/Senior management**: The level of management within BAV that has the authority, accountability and responsibility for setting policy, demonstrating commitment, meeting requirements, approving resources, setting objectives, implementing processes and achieving desired outcomes.

b) **ACRONYMS & ABBREVIATIONS**

1)	AD	Airworthiness directive
2)	ALoSP	Acceptable level of safety performance
3)	AMO	Approved maintenance organization
4)	AMS	Aircraft maintenance schedule
5)	AOC	Air operator certificate
6)	ATC	Air traffic control
7)	ATM	Air traffic management
8)	ATS	Air traffic service(s)
9)	BAV	Bamboo Airways
10)	CAAV	Civil aviation authority of Vietnam
11)	CAN	Corrective action notice
12)	CEO	Chief executive officer
13)	CP	Command post
14)	CRM	Crew resource management
15)	CVR	Cockpit voice recorder
16)	EDTO	Extended diversion time operation
17)	ERP	Emergency response plan
18)	FDR	Flight data recorder
19)	FRMS	Fatigue risk management systems
20)	HF	Human factors
21)	HIRA	Hazard identification and risk assessment
22)	IATA	International Air Transport Association
23)	ICAO	International Civil Aviation Organization
24)	IFSD	In-flight shutdown

25)	ILS	Instrument landing system
26)	IMC	Instrument meteorological conditions
27)	ISO	International Organization for Standardization
28)	ITM	Inventory technical management
29)	LOFT	Line-oriented flight training
30)	LOSA	Line operations safety audit
31)	MCM	Maintenance control manual
32)	MEDA	Maintenance error decision aid
33)	MEL	Minimum equipment list
34)	MOR	Mandatory occurrence report
35)	OPS	Operations
36)	QA	Quality assurance
37)	QM	Quality management
38)	QMS	Quality management system
39)	SAG	Safety action group
40)	SARPs	Standards and Recommended Practices (ICAO)
41)	SB	Service bulletin
42)	SD	Standard deviation
43)	SHELL	Software/hardware/environment/liveware
44)	SMM	Safety Management Manual
45)	SMS	Safety management system(s)
46)	SOPs	Standard operating procedures
47)	SPI	Safety performance indicator
48)	SRM	Safety risk management
49)	SSPV	State Safety Program of Vietnam
50)	SQA	Safety & Quality Assurance

CHAPTER 1 SMS REGULATORY REQUIREMENT

[IOSA ORG 2.1.5]

1.1 ICAO REQUIREMENT

[Refer to ICAO Doc 9859: Safety Management Manual (SMM), Third Edition, 2013]

a) The ICAO Doc 9859 - SMM is provided to States with guidance on the development and implementation of a State safety programme (SSP), in accordance with the International Standards and Recommended Practices (SARPs) relating to safety management, initially adopted in:

1) Annex 1: Personnel Licensing;
2) Annex 6: Operation of Aircraft;
3) Annex 8: Airworthiness of Aircraft;
4) Annex 11: Air Traffic Services;
5) Annex 13: Aircraft Accident and Incident Investigation;
6) Annex 14: Aerodromes, Volume I - Aerodrome Design and Operations;
7) Annex 19: Safety Management.

b) This manual also provides guidance material for the establishment of safety management system (SMS) requirements by States as well as for SMS development and implementation by affected product and service providers

1.2 STATE SAFETY PROGRAM OF VIETNAM (SSPV)

[Refer to Decision 1189/QĐ-BGTVT dated on 07 May 2013 by Ministry of Transport on Promulgation of the State Safety Program of Vietnam (SSP)]

a) The SSPV is “an integrated set of regulations and activities aimed at improving safety” and have 04 following components:

   1) State safety policy and objectives;

   2) State safety risk management;

   3) State safety assurance; and

   4) State safety promotion.

b) From the point of view of safety interventions and mitigation strategies, state safety risk management and state safety assurance are defined as the key processes.

c) The SSPV identified and established the Acceptable Level of Safety Performance (ALoSP) and the State Safety Indicators. Based on the SSPV, BAV is ongoing develop ALoSP monitoring and measurement process, including:

   1) Identify all the safety-critical sectors and the safety indicators that define the level of safety in these areas;

   2) Identify targets that define the level to be maintained or desired improvement to be achieved for relevant indicators in each sector with a view to achieving continuous improvement throughout the entire aviation system;

   3) Identify alerts that will indicate an actual or developing safety performance problem in a particular safety indicator or sector; and

   4) Review ALoSP safety indicators to determine whether modifications or additions to existing indicators, targets or alerts are needed to achieve continuous improvement.

1.3 VIETNAM AVIATION REQUIREMENTS (VARs)

This manual is elaborated on CAAV SMS regulations and BAV complies with all safety requirements and requirements on SMS implementation of Vietnam Aviation Regulations - VARs, as follows:

1.3.1 VAR 12 - Air Operator Certificate and Administration

[VAR 12.075]

a) In accordance with VAR 12.075 Safety Management System, BAV shall have a SMS acceptable to the CAAV that, as a minimum:

1) Identifies safety hazards;

2) Ensures that remedial action necessary to maintain an acceptable level of safety is implemented;

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

4) Aims to make continuous improvement to the overall level of safety.

b) BAV's SMS shall clearly define lines of safety accountability throughout the operator's organization, including a direct accountability for safety on the part of senior management.

c) BAV's SMS shall include accident prevention responsibilities that include:

1) Administration of a methodology for reporting, both confidential and identifiable, and correction of possible safety issues and providing feedback to the operations personnel;

2) Evaluation of adverse trends or patterns within the industry and BAV;

3) Conduct of safety briefings; and

4) Issuance of Operations Bulletins regarding safety and standardization matters.

1.3.2 Advisory Circulars of CAAV

[Refer AC-01-003: Development of Acceptable Safety Management Systems], [IOSA ORG 1.1.10]

a) The Advisory Circular AC-01-003 is issued to provide general guidance and principles to implement a Safety Management System (SMS) that will be accepted by the Civil Aviation Authority of Viet Nam.

b) The framework for the implementation and maintenance of a safety management system must include, as a minimum, the following four components:

1) Safety Policy and Objectives
   (i) Management commitment and responsibility;
   (ii) Safety accountabilities of managers;
   (iii) Appointment of key personnel;
   (iv) Emergency response planning;
   (v) Documentation and records Safety Risk Management;
2) Safety Risk Management
   (i) Hazard Identification;
   (ii) Safety risk assessment and mitigation.
3) Safety Assurance
   (i) Safety performance monitoring and measurement;
   (ii) Management of change;
   (iii) Continuous improvement of the SMS.
4) Safety Promotion
   (i) Training and education;
   (ii) Safety Communication.

c) CAAV requires that a safety management system must clearly define safety responsibilities, accountabilities and authorities of all positions within the organization especially direct safety responsibilities of the high level management leaders of the organization.

d) Guidance AC-01-003 also specifies that AOC Holders are free to build their SMS to the complexity of their operations. Organizations (include air operators) have a wide range of procedural options for compliance and are encouraged to identify the best method of compliance to meet their individual circumstances. The key to a successful SMS is to develop and grow the SMS Based on the organization's needs and customized to its operations.

1.4 OTHER SAFETY REQUIREMENTS OF VIETNAM

In addition to requirements on SMS, BAV also comply with as following regulations:

a) Decree 75/2007/ND-CP dated on 09 May 2007 by the Government on civil aircraft accident and incident investigation.

b) Circular 01/2011/TT-BGTVT dated 27th Jan 2011 of the Ministry of Transport specified in VAR 19.029 List of Mandatory Occurrence Reports.

c) Decision 399/QĐ-CHK dated 25/02/2015 of Civil Aviation Authority of Vietnam on Regulation of Civil Aviation Safety Reporting.

CHAPTER 2 SCOPE AND INTEGRATION OF SMS

2.1 SCOPE AND INTEGRATION OF SMS

2.1.1 Elements of SMS

SMS elements of BAV are designed in compliance with all requirements of AC-01-003 and include:

a) Safety policy and commitments of top management;

b) Clear/specific assignment of safety responsibility of key management positions within the company;

c) Assignment of key safety manager, leaders and staff;

d) An emergency and crisis response plan;

e) Safety reporting and safety data collection system with clear and comprehensive internal requirements, procedures on reporting and report processing are designed and implemented in order to collect all safety information and data for core SMS processes;

f) Hazard identification processes and procedures;

g) Safety risk assessment and mitigation processes and procedures;

h) Safety performance indicators measurement, monitoring processes and procedures;

i) Change management procedure/process under internal and external requirements;

j) Safety audit program (which is integrated to BAV's quality audit program) to periodically audit and monitor SMS and system continuous improvement;

k) A set of standard operation procedures (SOPs);

l) A Set of comprehensive safety training requirements and safety training program, syllabuses for all staffs;

m) A system of safety documentation, safety records and safety data with specific rules of retention, protection and access; and

n) Application of a set of safety promotion methods: De-briefing of occurrent/incidents/acidents meetings and safety bulletins; safety training and recurrent training...

2.1.2 Scope of SMS

To ensure safety in all passenger services processes, the scope of BAV's SMS includes the following areas:

a) Flight operation;

b) Aircraft maintenance;

c) Ground operation and passenger services.

d) Training.

Details safety requirements for activities are specified in BAV's manuals: FOM, SMSM, MCM, GOM, Training manuals for pilots, technical staff, ground staff, and dispatchers.

Notes:

1) For activities that BAV subcontract to service providers (in all areas), BAV shall include related safety requirements and standards in each contract/agreement.

2) BAV accepts service providers with SMS that fulfill requirements of CAAV or FAA or EASA or those of ICAO.

2.2 SCOPE OF SMS IN FLIGHT OPERATIONS

a) All flight operation activities of BAV including personnel, procedures, standards, equipment, aircraft of BAV are within the SMS scope.

b) For geographic coverage, the SMS affects to BAV operation network that includes all airports where BAV receive and provide services to passengers.

c) Activities under control include:

1) Aircraft weight and balance;

2) Flight dispatch;

3) Flight crews activities;

4) Cabin crews activities (both in-flight and on ground);

5) Cabin safety.

6) Other activities to assure safe operation.

2.3 SCOPE OF SMS IN AIRCRAFT MAINTENANCE

a) The SMS governs maintenance activities, which are directly performed by BAV.

b) Maintenance activities that BAV subcontracted to AMOs shall be subjects of SMS of such AMOs.

c) However, BAV shall require the subcontractors to provide safety information related to its properties specified in the maintenance contracts. In addition, in particular cases, BAV may request the subcontracted AMOs to provide results of internal safety audit(s), safety investigation(s) or evidence concerned.

2.4 SCOPE OF SMS IN GROUND OPERATIONS & PASSENGER SERVICE

a) The SMS of BAV governs ground operation and passenger service activities of BAV.

b) All services subcontracted by BAV to service providers shall not be subjects of BAV SMS. However, BAV shall require the subcontractors to provide safety information related to its properties or passenger safety that are specified in the service contracts. In addition, in particular cases, BAV may request the subcontractors provide the results of safety investigation or related evidence

2.5 RELATIONSHIP BETWEEN SMS AND QMS

a) BAV develops a Quality Management System (QMS) in compliance with CAAV requirements and its internal requirements on continuous improvement on quality. The QMS is operated in parallel and in combination with the SMS. In that combination, periodical safety audits are performed together with quality audits.

b) The so called “Safety – Quality audit program” of BAV include:

1) Internal safety-quality audits, and

2) External Safety-quality audit/Second party audit.

CHAPTER 3 SAFETY & QUALITY POLICY

3.1 SAFETY POLICY

[IOSA ORG 1.2.1], [IOSA ORG 1.2.2], [IOSA ORG 1.2.3], [IOSA ORG 2.1.5]

3.1.1 SAFETY AND QUALITY POLICY

SAFETY AND QUALITY POLICY

Safety and Quality are core values of Bamboo Airways that we provide to our customers and our employees. The Board of Management of Bamboo Airways and its staff thoroughly understand that the existence and growth of the Company are based on the trust and loyalty of our customers.

We commit ourselves to:

- Developing and applying an active SMS that supports a predictive SMS concept. The system is based on statistical data analysis, supports open sharing of information on all safety issues within the company, and encourages all employees to report significant errors, hazards or concerns.
- Proactively managing a hazard identification process and an associated risk analysis and elimination procedure.
- Developing "Safety Culture – Just Culture" so that no disciplinary action shall be applied to any staff who actively discloses an incident or safety occurrence. This policy shall not be applied to information sources that involve an illegal act or a deliberate, willful disregard for any approved regulation or procedure.
- Strictly applying the safety & quality management system as described in the Safety and Quality Manuals in compliance with all requirements of Regulatory Aviation Authorities, applicable legal regulations, and leading aviation industry standards.
- Ensuring that each member of the company shall consciously abide by the requirements, regulations in operation, maintenance and service, with safety and quality to be continually sustained and constantly improved.
- Providing sufficient resources and necessary conditions to implement the policy and the objectives of safety and quality. To continuously improve the management system while creating a reliable working environment with the highest sense of responsibility to satisfy customers' expectation;
- Establishing an efficient and effective communication system to ensure continual provision of updated safety and quality information and data

The existence, growth and prestige of Bamboo Airways is built on safety and the quality of services we deliver.

Bamboo Airways
CEO

Dang Tat Thang

3.1.2 NON-PUNITIVE POLICY

[IOSA ORG 1.2.3]

NON-PUNITIVE POLICY

All Bamboo Airways staff are encouraged to report safety concerns and errors and cooperate in the investigation of incidents. The primary objective is to identify the causes and eliminate them, not to identify and punish any individual concerned.

Bamboo Airways policy is that an unplanned or inadvertent lapse will not incur any punitive action. Company procedures may require Bamboo Airways to suspend an individual pending investigation. This should not be interpreted as punitive action but, rather, a precautionary measure.

As a guideline, individuals may attract punitive action if:

- The Act was intended to cause deliberate harm or damage
- The person concerned does not have a constructive attitude towards complying with safety procedures.
- The person concerned knowingly violated established procedures.
- The person concerned has been involved previously in similar lapses.
- The person concerned has attempted to hide or conceal their lapse or involvement in any lapse.
- The Act was a substantial disregard for safety.

It is reiterated that a voluntary incident reporting system is non-punitive and affords protection to the sources of information i.e. the concerned staff. However, in the case of willful negligence, intentional violation and the use of illicit substances, the non-punitive immunity will not apply.

The Management team of Bamboo Airways is committed to the principles stated in this Non-Punitive Policy.

Bamboo Airways
CEO

Dang Tat Thang

3.1.3 PROMOTION AND PERIODIC REVIEW SAFETY – QUALITY POLICY

CEO of BAV ensures that the Safety - Quality Policy is published and disseminated to each agency, departments, divisions, and all employees of the company. Safety - Quality Policy of BAV is periodically reviewed by the CEO with frequency of at least once every 12 months.

SQA Division ensures that SAR.23-Operator Questionaire on IATA Extranet is reviewed and updated once every 2 months.

3.1.4 NON-PUNITIVE REPORTING POLICY

a) Providing a safe and secure operation for our employees and customers is BAV's most important commitment. To ensure that commitment is met, it is imperative that we have uninhibited reporting of all incidents and occurrences that compromise the safety of our operations.

b) We ask that each employee accept the responsibility to communicate any information that may affect the integrity of operational safety. Employees must be assured that this communication will not result in reprisal, thus allowing a timely, uninhibited flow of information to occur.

c) All employees are advised that BAV will not initiate disciplinary actions against an employee who discloses an incident or occurrence involving operational safety. This policy cannot apply to willful contravention of the law, BAV instructions or regulatory policies.

d) BAV has developed Safety Reports to be used by employees for reporting information concerning safety. They are designed to protect the identity of the employee who provides information. These forms are readily available in your work area.

e) We urge all employees to use this program to help BAV provide our customers and employees with the highest level of flight safety.

3.2 COMMITMENT TO DEVELOP "SAFETY CULTURE - JUST CULTURE"

a) Safety is top priority in the activities of providing aviation services of BAV. All officials and employees of the company are responsible for safety.

b) Commitment to develop "Safety Culture - Just Culture" has been reflected in the Safety – Quality Policy of the company. Staff at all levels of BAV clearly understood and aware of safety responsibilities. We'll strive together to develop a "safety culture" with BAV identity.

Note: Safety culture is described in detail in chapter 7 of this manual.

3.3 MEASURES OF BAV TO ENSURE THE SAFETY

To ensure safety as Safety - Quality Policy announced, BAV has methods to control all its activities. The following 04 factors shall be considered and monitored for each BAV Operational process:

a) **Hardware**: including machinery and equipment

BAV has used young fleet of aircraft that always in compliance with airworthiness requirements from Aviation Authorities.

b) **Software**: The process

BAV has developed a system of SOPs accompanied with experience that meet the requirements of CAAV with the goal: safety - quality - efficiency.

c) **Environment**: Working Environment

BAV is aware of impacts of the environment to the company activities, and we always try our best to minimize the impact of the environment and working conditions to the safety of BAV.

d) **Live-ware**: People involved in the operation.

1) Employees participating in the operation activities of the company are fully trained on the job, as well as on safety.

2) BAV understand that passengers are also an important factor involved in the common flight safety. Therefore, passengers onboard shall be provided with necessary safety information to understand and to cooperate with cabin crews to minimizing hazards in the cabin, the cabin environment and to reduce the effects of an accident.

3) Cabin safety information is provided to passengers through public media, in-flight magazines, instructions of cabin crews and safety cards on airplanes.

CHAPTER 4 SAFETY OBJECTIVE & GOALS

4.1 SAFETY OBJECTIVES

[Reference: AC01-003, item 4.2; Doc 9859, item 5.3.13], [IOSA ORG 2.1.5], [IOSA ORG 3.2.1A]

a) Safety objectives are measured and monitored with the use of safety performance indicators that are related to safety objectives. At the start each financial year, the previous year's performance will be reviewed and new safety objectives for the Company will be proposed and approved by Aviation Safety Committee.

b) The Safety Objectives are to:

1) Ensure safety operation of all flights, no serious incidents and accidents, minimize incidents that is attributable to organizational factors;

2) Develop a completed safety management system includes fully functions: Reactive, Proactive, Predictive;

3) Develop a "safety culture" environment with BAV' own specific characteristics;

4) Meet the highest safety requirements of the Vietnamese state safety programme (SSPV), Aviation Authorities.

c) The process of safety objectives and safety goals determination:

1) Base on the updated safety objectives of SSPV, results of monitoring and measurement BAV' safety management system, BAV' ASC will review and generate safety objectives for the next phase. The safety goals and objectives shall then be approved by CEO of BAV.

2) Every year, the ASC, based on current results of safety level monitored by the safety management system, will review and issue safety objectives of next year. The new safety objectives ASC shall then be submitted to BAV's Accountable for approval.

3) The approved safety objectives and goals will be publicized and distributed widely within the company.

4.2 SAFETY GOALS

a) BAV strives to provide a safe, healthy work environment for all personnel and to improve the overall quality of our maintenance processes and services related to airworthiness safety by identifying, mitigating risk and eliminating hazardous conditions.

b) The BAV's safety goals are:

1) To cultivate a strong safety culture within the organisation.

2) To implement a non-punitive reporting system through which staff are encouraged to report safety hazards or concerns through the confidential employee's self-reporting system.

3) To identify potential hazards by performing Hazard Identification and Risk Analysis to mitigate the risk and eliminate potentially hazardous conditions.

4) To reduce the number of flight safety incidents related to maintenance.

5) To promote the awareness of Safety Management System in the company.

CHAPTER 5 SAFETY ACCOUNTABILITIES & KEY PERSONNEL

[IOSA ORG 2.1.5]

5.1 COMMITMENT

[IOSA ORG 1.1.3], [IOSA ORG 1.2.2]

Top management of BAV is required to commit of establishing the Safety Management System of BAV and to ensure the system is effective through the periodic review of safety performance, including:

a) The implementation of the SMS within their area of responsibility;

b) Actively supporting the organization's SMS and for ensuring their staff support and comply with the applicable regulations and the BAV's standards;

c) Actively seeking to identify hazards and potential hazards and safely managing them through the processes and procedures specified in this manual;

d) Aircraft accident, aircraft incident and hazard prevention;

e) Encouraging a pro-active safety reporting regime as well as promoting of safety awareness;

f) Ensuring that staff or contractors allocated to a particular task or duty are adequately trained to carry out that task or duty;

g) Reviewing of performance-based indicators;

h) Analysis of malfunctions or undesirable operational results;

i) Follow-up of corrective actions and their effectiveness in improving operational performance.

5.2 INFORMED INVOLVEMENT

Management demonstrates informed involvement in the SMS process by being personally involved in the improvement efforts arising from formal senior management reviews and by participating as appropriate in:

a) BAV' SMS policy formulation;

b) The Hazard identification and Risk Management process;

c) High priority areas for improvement;

d) The status of associated remedial actions/improvement initiatives;

e) SMS program performance measurements.

5.3 SAFETY MANAGEMENT SYSTEM ORGANIZATION

[IOSA ORG 1.3.1]

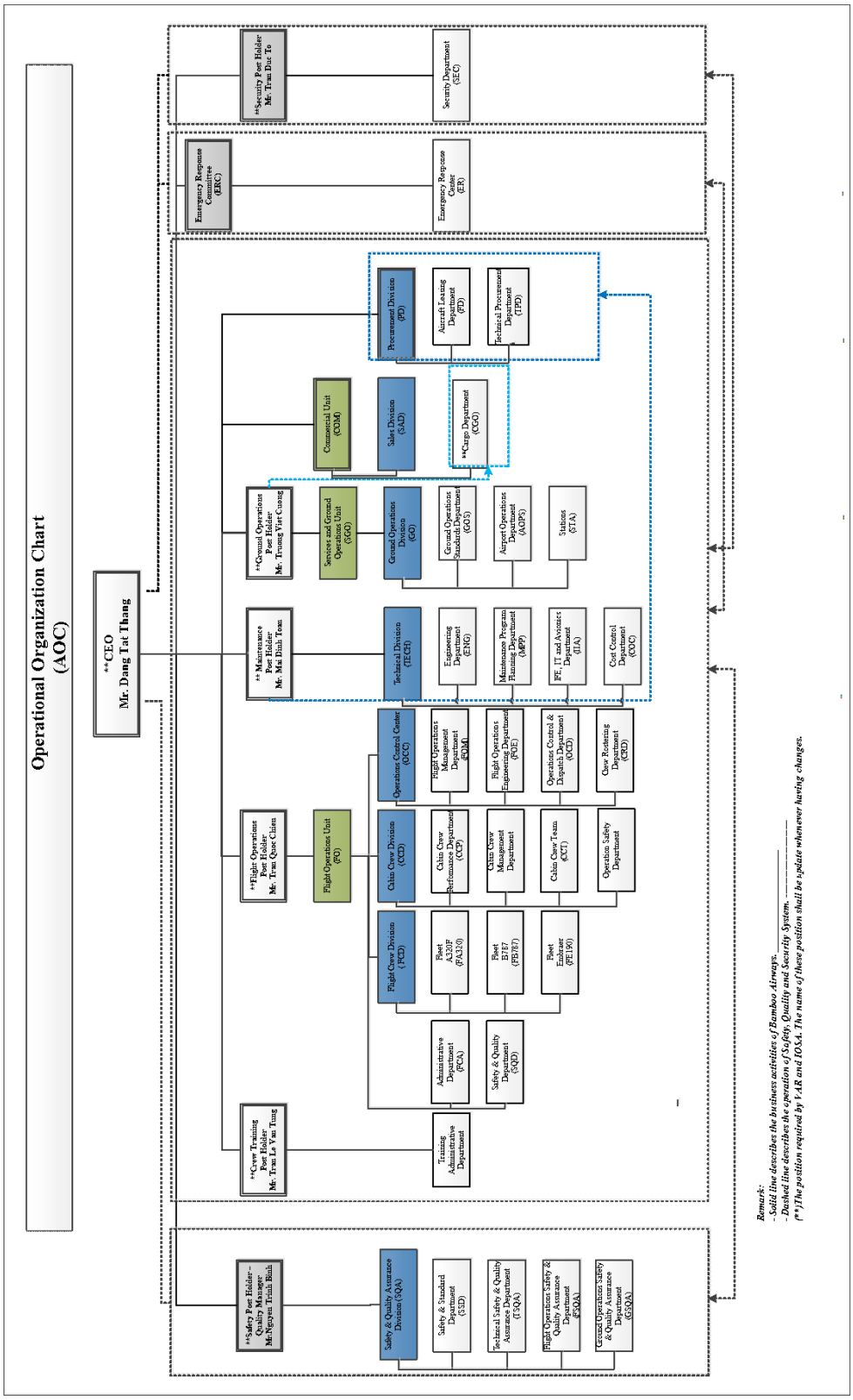

Figure 5-1 Organization Chart

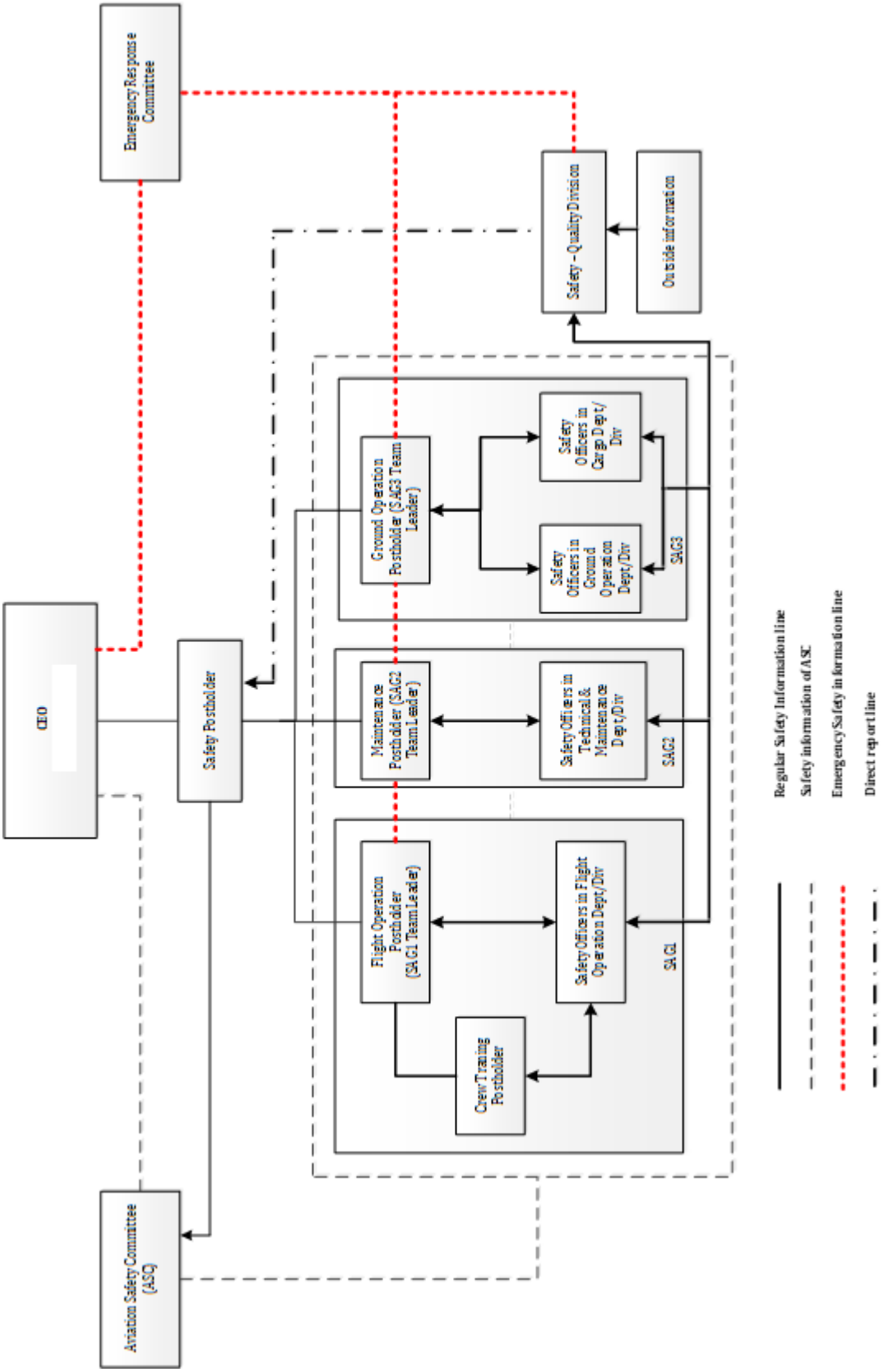

Figure 5-2 Safety Management System Organization Chart

5.4 NOMINATED POSTHOLDERS

BAV has nominated the following postholders according to VAR 12.060 and they are accepted by CAAV:

Table 5-1 Nominated Postholders

Postholder	Personnel
1. Accoutable manager / CEO	**Mr. Dang Tat Thang – CEO**  *Phone number*: 0938356666 *Email*: thangdt@bambooairways.com
2. Safety Postholder	**Mr. Nguyen Trinh Binh** *Position*: SQA Director  *Phone number*: 0912818047 *Email*: binhnt@bambooairways.com
3. Flight Operations Postholder	**Mr. Tran Quoc Chien** *Position:* FO Director  *Phone number*: 0903924080 *Email*: chientq@bambooairways.com

4. Ground Operations Postholder	**Mr. Truong Viet Cuong** *Position*: GO Director *Phone number*: 0983659898 *Email*: cuongtv@bambooairways.com	
5.Maintenance Postholder	**Mr. Mai Dinh Toan** *Position*: Director of Technical *Phone number*: 0913545414 *Email*: toanmd@bambooairways.com	
6. Security Postholder	**Mr. Tran Duc To** *Position*: Security Manager *Phone Number* : 0903588336 *Email*: totd@bambooairways.com	
7. Crew Training Postholder	***Mr. Tran Le Van Tung*** *Position: Head of Pilot Training* *Phone Number: +84976738448* *Email:* tungtlv@bambooairways.com	

5.5 ACCOUTABLE MANAGER/CEO

[IOSA ORG 1.3.1]

Refer to QM Section 2.2.3.2.3 for authorities, accountabilities, and responsibilities of the Accountable Manager/CEO

Accoutable manager is the CEO responsible for the SMS program and is committed to the following:

a) Demonstrating commitment to safety and the Safety Management System.

b) Being the chairman of Aviation Safety Committee

c) BAV's visible commitment by CEO is demonstrated by:

   1) The appointment of Safety Postholder, and additional staffing to support this role;

   2) Open communication about safety issues;

   3) Provision of adequate resources to address safety concerns;

   4) A safety policy endorsed and signed by the CEO.

d) Making decisions regarding risk tolerability with respect to the safety and/or security of aircraft operations.

5.6 (deleted)

(deleted)

5.7 SAFETY POSTHOLDER (SQA DIRECTOR)

[IOSA ORG 1.1.12], [IOSA ORG 3.3.2]

Refer to QM Section 2.2.3.2.1, 2.2.3.2.2 e) for authorities, accountabilities, and responsibilities of the Safety Postholder

a) Safety Postholder is the Safety & Quality Assurance Director (SQA) directly accountable to CEO for all issues related to safety & quality; supervising and resolving all issues relating to safety & quality of BAV in compliance with VARs, regulations of CAAV, other related authorities and Company policies;

b) Ensures that all staff thoroughly understand and are aware of stated safety policy, safety objectives;

5.8 POSTHOLDERS OF FLIGHT OPERATION, MAINTENANCE AND GROUND OPERATION

Refer to QM Section 2.2.3.2.1, 2.2.3.2.2 a), 2.2.3.2.2 b), & 2.2.3.2 d) for authorities, accountabilities, and responsibilities of the Flight Operations, Maintenance and Ground Operations Postholders

a) Ensure that his staff always understand thoroughly and are aware of safety policy, safety objectives and safety performance indicators;

b) Develop the safety culture within his field in accordance with company safety culture identity;

c) Ensure that his staff receive safety training that is appropriate for their positions and meets safety requirements of company;

d) Ensure that his staff understand their safety responsibilities, Bamboo Airways safety reporting system, safety management processes appropriately especially processes that they are involved directly;

e) Ensure that corrective/preventive actions are taken effectively and in a timely manner;

f) Develop safety plans and safety projects; safety risk mitigation program and implements the approved safety plans, projects; monitors and oversees its performance;

g) Be a SAG's team leader;

h) Presides and/ or participates safety investigations upon request.

5.9 CREW TRAINING POSTHOLDER

Refer to QM Section 2.2.3.2.1, 2.2.3.2.2 c) for authorities, accountabilities, and responsibilities of the Crew Training Postholder

5.10 SAFETY & QUALITY ASSURANCE DIVISION (SQA)

[IOSA ORG 1.1.12]

a) SQA fulfills four main safety functions:

1) Advises CEO/Safety Postholder on safety management matters;

2) Assists Heads of divisions/departments with safety management matters;

3) Monitors safety performance of divisions/departments;

4) Manages and oversees company's safety reporting system, HIRA program.

b) Duties:

1) Proposes and recommends on safety policy, objectives and safety performance indicators; provides performance reports to Board of management for making decisions;

2) Gathers safety information from inside and outside sources of company; develops and manages safety database, safety library effectively;

3) Aggregates analysis on identified hazards, reassess safety risk of consequence of the hazards; issue safety recommendations if any to relevant divisions/departments;

4) Measures safety performance indicators and distributes the results to Board of management, ASC and related divisions/departments;

5) Assesses effectiveness of safety management processes; reports the results to Board of management for review; and monitors corrective/preventive actions;

6) Presides and/or participate safety investigation for safety occurrences;

7) Proposes and participates in developing safety training program, plan for each working position; provides safety specialists in order to train on safety for Bamboo Airways and Bamboo Airways' subcontractors when requested;

8) Presides the contents and issues Bamboo Airways safety bulletins.

5.11 SAFETY OFFICERS AT DIVISIONS DEPARTMENTS

a) Appointed by the head of division/department, on behalf of Div/Dep about Safety issues.

b) Being the clues to maintain continuous connection with BAV' SMS through the safety communication with SQA.

c) Being responsible or carry out safety process at Div/Dep; monitor the safety performance at Div/Dep; directly report to Div/Dep Leader and SQA.

d) Requirements for Safety Officers in Division/Department:

1) Have knowledges about their respective operational area.

2) Undergo the SMS 3 training program and attend Safety Risk Management Course when the course is available.

5.12 DIVISIONS/DEPARTMENTS

a) Heads of divisions/departments

Refer to QM Section 2.2.3.2.3 d) for authorities, accountabilities, and responsibilities

b) BAV's staff

1) Authorities

(i) To be trained on the operational procedures, requirements, working rules, including labor safety, environmental protection regulations, requirements on Quality management system of Bamboo Airways;

(ii) To have appropriate competency to perform their works relevant to safety – quality and security of aircraft operations on basic of knowledge, training, skills and appropriate experience as required by law;

(iii) To make reports related to any safety and quality issues in their respective defined operational areas without leading to punitive action or mishandling for conducting the reports;

2) Accountabilities

(i) Attend work fit for duty, including being adequately rested and ensure health and mental to fulfill their duties.

3) Responsibilities

(i) Thoroughly understand safety policy, safety objectives, safety performance indicators of BAV and those of their own division/department (if any); advise their managers on safety matters in order to improve the safety policy, safety objectives, safety performance indicators;

(ii) Thoroughly understand their own safety and quality authority, responsibility and accountability associated with assigned functions and tasks;

(iii) Participate in the development of the safety culture within their division/department and BAV;

(iv) Actively identify safety matters, hazards in their work...; make safety report, hazard identification report and provide safety information to their managers and/or SQA;

(v) Participate in safety training courses as required;

(vi) Work in a manner that will not endanger themselves or any other person.

5.13 PERSONS AUTHORIZED TO SIGN AGREEMENT(S) WITH SERVICE PROVIDERS FOR BAV

Ensure that BAV safety policy, safety goals and safety performance indicators related to scope of agreement must be considered and reflected in the agreement. Safety objectives, safety performance indicators can be considered as conditions of Service level of agreement (SLA) if necessary.

Note: *BAV* can provide safety training for the subcontractor's staff on safety procedures before the commencement of an agreement.

5.14 AVIATION SAFETY COMMITTEE (ASC)

[IOSA ORG 1.5.2], [IOSA ORG 3.3.1]

a) **General**

1) ASC is the highest-level committee for safety monitoring. The ASC deals with macro level issues in relation to safety policies, resource allocation and safety performance monitoring.

2) The ASC meeting is scheduled at intervals not exceeding one year . However, in urgent cases or if necessary, ASC chairman convenes unusual meeting to review important safety matters.

b) **ASC composition**:

The membership of the Aviation Safety Committee (ASC) is:

1) Chairman: The CEO

2) Secretaries: Lead by the Safety Postholder (SQA Director) or who is appointed by Accountble Manager

3) ASC's member:

(i) Postholders;

(ii) Heads of SQA, Technical & Maintenance, Ground operations, OCC, Flight crew, Cargo, Cabin crew, and Training center.

c) **The ASC is responsible for:**

1) Monitoring safety performance;

2) Monitoring and ensuring that any necessary corrective action is taken in a timely manner;

3) Monitoring and assessing the effectiveness of the SMS processes;

4) Ensuring that appropriate resources are allocated to meet agreed actions which enhance safety performance beyond that required by regulatory compliance alone;

5) Monitoring the effectiveness of the safety oversight of sub-contracted operations;

6) Additionally the ASC shall undertake the following functions:

7) Ensuring full assistance is afforded to the SMSM on any SMS matter;

8) Ensuring that hazard identification and risk assessments are carried out as appropriate with such involvement of staff as may be necessary to build up safety awareness;

9) Ensuring that satisfactory arrangements exist for safety data capturing and providing staff feedback;

10) Ensuring that suitable safety performance indicators are developed and regularly reviewed for each functional area;

11) Ensuring that the mandatory Internal Audit / Quality Audit Program is completed in a timely manner;

12) Convening of such meetings or briefings as may be necessary to ensure that effective opportunities are available for all staff to participate fully in management for safety;

13) Ensuring that shortfalls in human performance which are found to have contributed to safety events are dealt with in accordance with the safety protocols;

14) Ensuring that adequate investigation of safety events/issues takes place and that safety reviews are then conducted and any actions arising tracked to completion;

15) Ensuring that appropriate safety, emergency and technical training of personnel is carried out to meet or exceed minimum regulatory requirements;

16) Reviewing accident, incident and safety information received from other operators, manufacturers and Airworthiness Authorities and the dissemination of appropriate information to staff.

5.15 ASC ACTIVITIES

[IOSA ORG 1.5.2]

The ASC plays a leading role in the implementation and monitoring of the Safety Management System:

a) To establish safety operational targets (SPI) for the Company;

b) Provide strategic safety direction for all division in the company;

c) Direct, oversee and ensure the continual improvement of the Safety Management System - this includes identification of the causes of substandard performance, determination of the implication of substandard performance and elimination or mitigation of causes of substandard performance;

d) Make sure the necessary resources are allocated to achieve the required level of safety; and

e) Ensure that corrective actions are implemented and maintained as long as required;

f) Review SAG's meeting report to ensure the effectiveness of SAG's activities.

5.16 MEETING AGENDA

a) The ASC's work program includes:

1) The meeting is scheduled at intervals not exceeding one year and the meeting agenda will be issued to the members by the leader of the ASC' Secretaries;

2) The Committee will convene as soon as possible after any serious incident/accident or as directed by the Chairman.

b) The meeting agenda is prepared and distributed by the leader of the ASC' Secretaries to all the members at least 2 working days prior to the meeting and shall include, but is not limited to:

1) Significant changes to organizational structure, reporting lines, policy and procedure;

2) New or changed management position holders New or changed positions or job descriptions Significant policy, procedure or IT system changes

3) Issues arising from the flight safety analysis and quality programs will be discussed under the following topics:

(i) Safety reporting & Safety investigations;

(ii) Data monitoring trends;

(iii) Quality audit: audits completed versus schedule, number of qualified auditors, significant and repeating audit finding, and CAR closure status;

4) Security issues;

5) SPI review;

6) SAG safety promotional activities;

7) Emergency Response Program;

8) Changes in CAAV regulations;

9) CAAV and other violations or fines.

5.17 SUBMITTING SAFETY REPORT TO ASC

a) Safety reports to be submitted to the ASC' Secretaries 07 working days before the ASC meeting date. This report should contain operational Safety & Quality information pertinent to that department. The reports should be concise and relevant and address actions identified at previous meetings. The reports will be distributed by the SQA to the attendees with the ASC agenda.

b) Attendees should endeavor to review the reports prior to the meeting.

5.18 SAFETY ACTION GROUPS (SAG)

5.18.1 General

Safety Action Groups (SAGs) are established according to fields to implement safety activities synchronously in accordance with safety objectives and safety management strategies of BAV.

5.18.2 Compositions

a) Flight Operations Safety Action Group (SAG-1)

1) Team Leader: Flight Operation Postholder.

The Team Leader is accountable for the supervision and management entire activities of the SAG-1.

2) Members: Heads and managers in charge of safety from divisions/departments of OCC, Flight crew, Cabin crew, Crew Training Postholder.

3) Secretaries: Lead by a manager in FO Unit, who is ultimate responsible for:

(i) Collecting information prior the meeting;

(ii) Preparing a meeting agenda;

(iii) Supporting the Team Leader during the meeting;

(iv) Disseminating the SAG meeting report to the ASC and related departments/divisions.

4) SQA representative: Is responsible for:

(i) Monitoring SAG-1 activities' compliance;

(ii) Providing input to the meeting, include results of audits, operational inspections and investigations, safety data, etc;

(iii) Supporting the SAG-1 activities in general.

b) Technical Safety Action Group (SAG-2)

1) Team Leader: Maintenance Postholder

The Team Leader is accountable for the supervision and management entire activities of the SAG-2.

2) Members: Heads and managers from divisions/departments of Technical & Maintenance, Supply management;

3) Secretaries: Lead by a manager in Technical Department, who is ultimate responsible for:

(i) Collecting information prior the meeting;

(ii) Preparing a meeting agenda;

(iii) Supporting the Team Leader during the meeting;

(iv) Disseminating the SAG meeting report to the ASC and related departments/divisions.

4) SQA representative: Is responsible for:

(i) Monitoring SAG-2 activities' compliance;

(ii) Providing input to the meeting, include results of audits, operational inspections and investigations, safety data, etc;

(iii) Supporting the SAG-2 activities in general.

c) Ground Operations & Cargo Safety Action Group (SAG-3)

1) Team Leader: Ground Operations Postholder

The Team Leader is accountable for the supervision and management entire activities of the SAG-3.

2) Members: Heads and managers from divisions/departments of Ground Operations, Cargo;

3) Secretaries: Lead by a manager in GO Unit, who is ultimate responsible for:

(i) Collecting information prior the meeting;

(ii) Preparing a meeting agenda;

(iii) Supporting the Team Leader during the meeting;

(iv) Disseminating the SAG meeting report to the ASC and related departments/divisions.

4) SQA representative: Is responsible for:

(i) Monitoring SAG-3 activities' compliance;

(ii) Providing input to the meeting, include results of audits, operational inspections and investigations, safety data, etc;

(iii) Supporting the SAG-3 activities in general.

5.18.3 Duties

[IOSA ORG 3.3.1]

a) Oversees operational safety performance within the functional areas and ensures that HIRA program is carried out appropriately with staff involvement as necessary;

b) Coordinates the resolution of mitigation strategies for the consequences of identified hazards and ensures appropriate arrangements for safety data gathering and employee feedback;

c) Assesses safety impact of operational changes;

d) Coordinates the implementation of corrective/preventive action plans and arranges meetings or briefings as necessary to ensure that all employees participate fully in safety management;

e) Ensures that corrective/preventive actions are taken in a timely manner;

f) Reviews the effectiveness of previous safety recommendations;

g) Oversees safety promotion and ensures that appropriate safety, emergency and technical training for staff is carried out that meets or exceeds minimum regulatory requirements;

h) SAGs meeting is held monthly and all SAG's activities are reported to ASC,

5.18.4 Meeting agenda

The following agenda items shall normally apply to the SAGs meeting:

1) Previous conclusion review

2) Risk Assessment Management

   (i) Identification and risk assessment of new hazards arising in the period

   + Outstanding Events for requiting risk assessment

   + Review of identification and risk assessment for new hazards arising in the month.

   (ii) Review implementation results and effectiveness of mitigation measures

3) Safety Assurance

   (i) Measure the performance of safety indicators

   (ii) Measure the performance of KPI indicators

   (iii) Safety Investigation

   (iv) Management of change

   (v) Review of inspection and safety audit

4) Safety Training and Communications

5) Conclusion, Proposal, Recommendation

5.19 EMERGENCY RESPONSE COMMITEE - ERC

a) The Emergency Response Committee (ERC) is established to assist the Chairman of Emergency Committee to coordinate and manage the BAV response to an emergency. Roles and responsibilities of ERC are to:

1) Manage, coordinate and control activities of emergency response in the event of serious incident and accident occurrence.

2) Provide and accumulate relevant information related to passengers, crew and activities of response teams on the site and BAV Headquarters.

3) Provide guidance and decision to the Emergency Response.

4) Organize briefings and discussions in order to have solutions to situation handling.

5) Deploy Go Team to the site; Manage and maintain contact between Command Centre on the site and other teams in charge of Passenger and Crew Welfare; Accident Investigation; Aircraft handling; Cargo / baggage handling; Media Information Assistance; People Transport; Security; Evidence Accumulation, Logistics, Decision making.

6) Liaison with CAAV and other authorities.

7) Contact and coordinate with BAV representatives at the airport nearest the site in order to establish Command Centre at the Airport or On the Site.

b) ERC's functions and procedures are addressed in the BAV Emergency Response Plan Manual.

CHAPTER 6 NON-PUNITIVE REPORTING POLICY

6.1 NON-PUNITIVE REPORTING POLICY

[IOSA ORG 1.2.3], [IOSA ORG 3.1.3], [IOSA ORG 3.1.4]

a) Providing a safe and secure operation for employees and customers is BAV's most important commitment. To ensure that commitment is met, it is imperative that we have uninhibited reporting of all incidents and occurrences that compromise the safety of our operations.

b) We ask that each employee accept the responsibility to communicate any information that may affect the integrity of operational safety. Employees must be assured that this communication will not result in reprisal, thus allowing a timely, uninhibited flow of information to occur.

c) All employees are advised that BAV will not initiate disciplinary actions against an employee who discloses an incident or occurrence involving operational safety. This policy cannot apply to willful contravention of the law, BAV instructions or regulatory policies.

d) BAV has developed Safety Reports to be used by employees for reporting information concerning safety. They are designed to protect the identity of the employee who provides information. These forms are readily available in your work area.

e) BAV urge all employees to use this program to help BAV provide our customers and employees with the highest level of flight safety.

6.2 CONSTANT VIGILANCE

BAV recognizes that it is easy to become complacent, especially if the organization has not experienced a major incident or accident. This may lead to the following illusions of safe operations:

a) An organization with a good safety record will continue to be safe;

b) Instructions and procedures for aviation safety are well read, understood, remembered and observed;

c) Punishment can minimize the recurrence of an accident;

d) Luck plays a big role in an SMS program;

e) Trained, experienced employees are immune to errors;

f) It suffices that top management appeal from time to time to employees on the importance of SMS to safe operations.

6.3 BAV SAFETY CULTURE

a) **Safety Culture** in an organisation can be described as the way in which it conducts its business and particularly the way it manages safety.

- A safety culture encompasses the commonly held perceptions and beliefs of an organization's members pertaining to the public's safety and can be a determinant of the behaviour of the members.
- A healthy safety culture relies on a high degree of trust and respect between personnel and management and must therefore be created and supported at the senior management level. Every individual is responsible for the organization's safety.
- A safety culture cannot be effective unless it is embedded within an organization's own culture.

b) **A healthy safety culture** is described as follows:

- Continuous improvement in safety performance;
- Actively seeking safety information;
- Effective implementation of hazard identification and risk management;
- A healthy safety culture actively seeks improvements, vigilantly remains aware of hazards and utilizes systems and tools for continuous monitoring, analysis and investigation.

c) Safety culture consists of five elements:

1) Informed Culture

In an informed culture, insight breeds a positive safety culture. Thus if each individual at BAV understands what the other person needs to accomplish their job safely, then we can operate in mutual support. The system our organization uses to collect, analyze and disseminate information from hazard identification, occurrences (incidents, accidents), audits, meetings, and external sources is a vital part of our informed culture. As part of our positive safety culture, we perform continual 'reality checks' on our organization and disseminate the findings.

2) Reporting Culture

A reporting culture is based on trust. BAV believes that the accepted requirements for a reporting culture are as follows:

(i) Indemnity against disciplinary action except in cases of wilful violations or gross negligence (striking a balance between 'blame' and 'no blame');

(ii) Confidentiality and de-identification;

(iii) Competent analysis of incidents / accidents by independent individuals (people who report outside the chain of command of those involved);

(iv) Rapid, useful, accessible feedback to the reporters; and

(v) Ease of making a report.

3) Just Culture

The Company recognises and supports the following:

(i) Every manager and employee shares accountability and responsibility for their behavioural choices in-line with the BAV's values.

(ii) Every manager and employee is encouraged to continuously evaluate the risks inherent in their behavioural choices and to avoid causing unjustified risk or harm to oneself or others.

(iii) All managers must recognise that human error will occur and must be managed to minimise risk. Blame and discipline for isolated incidents of unintentional errors or management accepted 'norms' is counter-productive and contrary to Just Culture.

(iv) Risks and unintentional errors can be reported without fear of discipline.

(v) Staff who identify a risk or are involved in safety occurrences/near misses have a duty to report.

(vi) The BAV's aim is to learn from errors and violations and share this learning in a manner that supports system design and continued safe behaviours.

(vii) Learning from incidents must consider the need to design systems which anticipate human error and support safe behavioural choices.

(viii) An effective investigation process seeks to identify the cause of human errors and 'at risk' behaviours to prevent them from re- occurring.

(ix) The organisation sets clear boundaries for the consistent application of behavioural management processes which applies an objective standard for decision making based on Just Culture principles.

(x) An employee who has committed a series of human errors or 'at risk' behaviours, whose cause does not originate

within the system, may be subject to disciplinary action in accordance with Company performance and conduct policies when remedial action is not effective in changing the unsafe behaviour.

(xi) Reckless behaviour will not be tolerated. Managers or employees who engage in reckless behaviour , persistent breaches of company standards, policies or procedures, or a deliberate failure to report may be subject to disciplinary action in accordance with Company performance and conduct policies.

(xii) Management shall use the Just Culture Culpability Decision Tool and Treatment Guideline when evaluating a manager or employee's behaviours under the Just Culture Policy.

(xiii) Heads of Departments are responsible for ensuring that employees and managers Job Descriptions, Key Performance Indicators and KPI Assessments are in accordance with Just Culture.

(xiv) All employees and managers are expected to fully support and cooperate in the investigation process. Failure to do so is unacceptable and considered to be a breach of company policy.

(xv) Personnel may be stood down from duties pending a safety/security investigation. Such a stand down is not considered to be punitive and is normally taken where there is a potential safety/security implication should personnel continue their duties and/or when there is an urgent requirement to carry out an interview or investigation.

(xvi) The Safety and Quality Assurance department is responsible for providing oversight and assurance, and can be sought for advice, on matters related to Just Culture.

(xvii) The BAV considers the above to be the Just Culture Policy and it is also known as the Just Safety Reporting and Investigation Policy.

4) Flexible Culture

A flexible culture allows the following paradoxes. We:

(i) Adhere to Standard Operating Procedures (SOPs) but are continually seeking better ways in a controlled, responsible manner;

(ii) Actively avoid errors but we do not stifle initiative; and

(iii) Encourage mutual monitoring, but it must be accomplished without loss of confidence or trust.

5) A Learning Culture

BAV supports a learning culture which has:

(i) The ability to ‘reframe’ (we try not to display a rigid, fixed ‘mindset’);

(ii) The will to implement reforms;

(iii) An ‘Internal locus of control’ (we accept responsibility for own actions and results); and

(iv) The appropriate processes, procedures and methods for becoming a ‘learning' organization.

(v) BAV’ safety culture is assessed through a variety of indicators, including a periodic Safety Culture Survey.

6.4 DEVELOP BAV'S SAFETY CULTURE

Safety Culture of BAV can be seen as:

a) All staff of BAV have right to say and do about safety concern in accordance with their function and responsibilities. BAV encourages participations of organizations, individuals in our safety management process.

b) CEO and nominated Postholders of BAV take a leading role in developing an active safety culture within BAV organization. Commitments of div/dept directors are standard basis of BAV's safety culture.

c) BAV div/dept directors are responsible for creating a reliable working environment, through setting a good example in implementation of commitments. Encourage two-way public information between senior management and all staff member through Non-Punitive Reporting Policy (Just Culture). Ensure all employees will be trained on safety and about safety culture and provide sufficient resources to address related safety issues in BAV.

d) Staff at all levels of BAV has responsibilities to understand safety culture and actively participate in company's safety management process. Each member is aware of the individual role in: the company air safety, society safety and self-consciously participates into the company's safety management processes by providing safety reports and recommending safety solutions for company's operation. Members state awareness, self-learning and horn skills to improve safety level of company.

6.5 POLICY ON HANDLING UNSAFE BEHAVIORS

6.5.1 Four Types of Unsafe Behaviors

Human Factors specialists have identified four types of behaviors that might result in unsafe acts. The issue that has been raised is that not all of these behaviors necessarily warrant disciplinary sanction.

a) **Human error**: When there is general agreement that the individual should have done other than what they did. In the course of that conduct where they inadvertently caused (or could have caused) an undesirable outcome, the individual is labelled as having committed an error.

b) **Negligent conduct**: Negligence is conduct that falls below the standard required as normal in the community. Negligence, in its legal sense, arises both in the civil and criminal liability contexts. It applies to a person who fails to use the reasonable level of skill expected of a person engaged in that particular activity, whether by omitting to do something that a prudent and reasonable person would do in the circumstances or by doing something that no prudent or reasonable person would have done in the circumstances. To raise a question of negligence, there needs to be a duty of care on the person, and harm must be caused by the negligent action.

   In other words, where there is a duty to exercise care, reasonable care must be taken to avoid acts or omissions which can reasonably be foreseen to be likely to cause harm to persons or property. If, as a result of a failure to act in this reasonably skilful way, harm/injury/damage is caused to a person or property, the person whose action caused the harm is liable to pay damages to the person who is, or whose property is, harmed.

c) **Reckless conduct** (gross negligence): More culpable than negligence. The definition of reckless conduct varies between countries; however, the underlying message is that to be reckless, the risk has to be one that would have been obvious to a reasonable person. In both civil and criminal liability contexts, it involves a person taking a conscious unjustified risk, knowing that there is a risk that harm would probably result from the conduct, and foreseeing the harm, he or she nevertheless took the risk. It differs from negligence (where negligence is the failure to recognize a risk that should have been recognized), while recklessness is a conscious disregard of an obvious risk.

d) **Intentional "wilful" violations**: When a person knew or foresaw the results of the action, but went ahead and did it anyway**.**

6.5.2 Defining the Border of "Unacceptable Behavior"

The difficult task is to discriminate between the truly 'bad behaviors' and the vast majority of unsafe acts to which discipline is neither appropriate nor useful. It is necessary to agree on a set of principles for drawing this line:

a) **Definition of Negligence**: Involved a harmful consequence that a 'reasonable' and 'prudent' person would have foreseen.

b) **Definition of Recklessness**: One who takes a deliberate and unjustifiable risk. Reason (1997) believes that the line between "culpable" (or "unacceptable") and "acceptable" behavior should be drawn after 'substance abuse for recreational purposes' and 'malevolent damage'.

Figure 6-1 illustrates the borders between "acceptable" and "bad" behaviors, where statements in the safety policy can deal with human error (such as omission, slips etc), and where laws come into play when criminal offenses and gross negligence are concerned. Procedures and proactive management can support those situations that are less clear, at the borders.

Figure 6-1 Defining the borders of "Unacceptable Behaviors"

(From P. Stastny Sixth GAIN World Conference, Rome, 18-19 June, 2002)

6.5.3 Determining 'Culpability' on an Individual Case Basis

a) In order to decide whether a particular behavior is culpable enough to require disciplinary action, a policy is required to decide fairly on a case-by-case basis.

b) Three types of disciplinary policy are described below. The third policy provides the basis for a Just Culture. Reason's Culpability Decision Tree follows, presenting a structured approach for determining culpability:

1) **Outcome-Based Disciplinary Decision Making**: focuses on the outcome (severity) of the event: the more severe the

outcome, the more blameworthy the actor is perceived. This system is based on the notion that we can totally control the outcomes from our behavior. However, we can only control our intended behaviors to reduce our likelihood of making a mistake, but we cannot truly control when and where a human error will occur. Discipline may not deter those who did not intend to make a mistake.

2) **Rule-based Disciplinary Decision Making**: Most high-risk industries have outcome-Based rules (e.g. separation minima) and behavior- Based rules (e.g. work hour limitation). If either of these rules is violated, punishment does not necessarily follow, as for example, in circumstances where a large number of the rules do not fit the particular circumstances. Violations provide critical learning opportunities for improving safety – why, for example, certain violations become the norm.

3) **Risk-Based Disciplinary Decision Making**: This method considers the intent of an employee with regard to an undesirable outcome. People who act recklessly are thought to demonstrate greater intent (because they intend to take a significant and unjustifiable risk) than those who demonstrate negligent conduct. Therefore, when an employee should have known, but was unaware, of the risk s/he was taking, s/he was negligent but not culpably so, and therefore would not be punished in a Just Culture environment.

c) Reason's Culpability Decision Tree (Figure 6-1) displays a decision tree for helping to decide on the culpability of an unsafe act. The assumption is that the actions under scrutiny have contributed to an accident or to a serious incident. There are likely to be a number of different unsafe acts that contributed to the accident or incident, and Reason (1997) believes that the decision tree should be applied separately to each of them. The concern is with individual unsafe acts committed by either a single person or by different people at various points of the event sequence. The five stages include:

1) **Intended act**: The first question in the decision-tree relates to intention, and if both actions and consequences were intended, then it is possibly criminal behavior which is likely to be dealt with outside of the company (such as sabotage or malevolent damage).

2) **Under the influence of alcohol or drugs**: known to impair performance at the time that the error was committed. A distinction is made between substance abuse with and without 'reasonable purpose (or mitigation)', which although is still

reprehensible, is not as blameworthy as taking drugs for recreational purposes.

3) **Deliberate violation of the rules** and did the system promote the violation or discourage the violation; had the behavior become automatic or part of the 'local working practices'.

4) **Substitution test**: could a different person (equally competent and comparably qualified) have made the same error under similar circumstances (determined by their peers). If "yes", the person who made the error is probably blameless, if "no", were there system- induced reasons (such as insufficient training, selection, experience)? If not, then negligent behavior should be considered.

5) **Repetitive errors**: The final question asks whether the person has committed unsafe acts in the past. This does not necessarily presume culpability, but it may imply that additional training or counseling is required.

d) Reason's Foresight test: provides a prior test to the substitution test described above, in which culpability is thought to be dependent upon the kind of behavior the person was engaged in at the time.

e) The type of question that is asked in this test is: Did the individual knowingly engage in behavior that an average operator would recognize as being likely to increase the probability of making a safety-critical error?

f) If the answer is 'yes' to this question in any of the following situations, the person may be culpable. However, in any of these situations, there may be other reasons for the behavior, and thus it would be necessary to apply the substitution test.

1) Performing the job under the influence of a drug or substance known to impair performance.

2) Clowning around whilst on the job.

3) Becoming excessively fatigued as a consequence of working a double shift.

4) Using equipment known to be sub-standard or inappropriate.

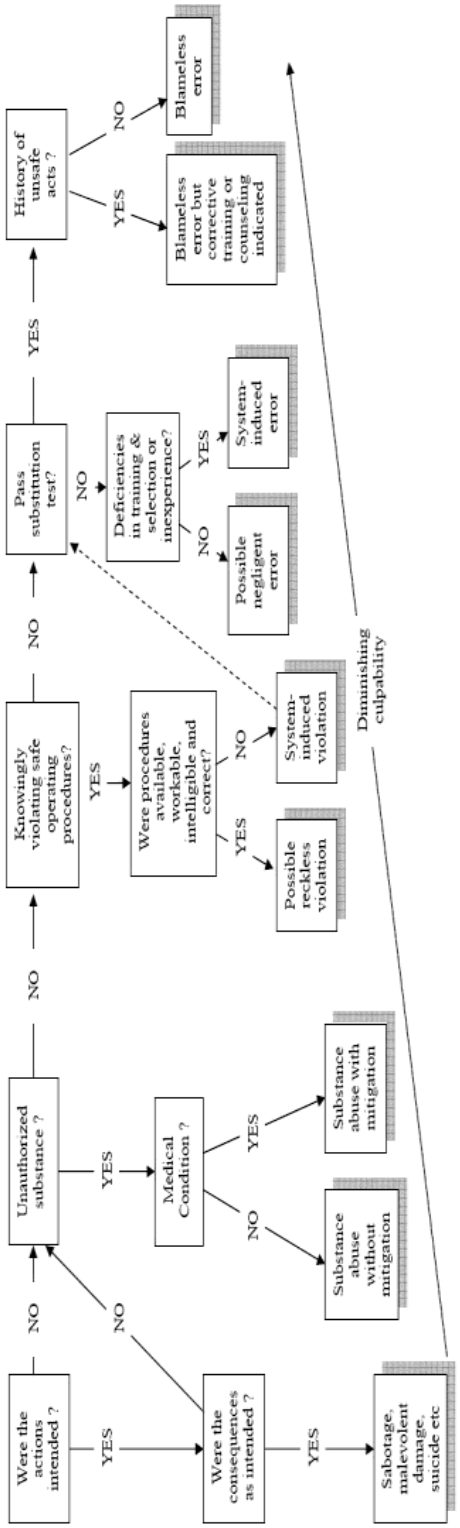

Figure 6-2 Using equipment known to be sub-standard or inappropriate

CHAPTER 7 SAFETY DATA AND REPORTING

[IOSA ORG 1.4.2], [IOSA ORG 2.1.5], [IOSA ORG 3.3.1]

7.1 PURPOSE

a) The purpose of safety reporting is to prevent accidents and incidents through the collection and dissemination of relevant safety information and not for the purpose of apportioning blame.

b) Confidential report of individuals to contribute to improving aviation safety through the same processes and policies applicable to the mandatory reporting requirement.

7.2 SAFETY DATA AND SAFETY REPORTING SYSTEM

[IOSA ORG 3.1.3]

a) Safety data and safety reporting system of BAV's SMS is established to include different report types to ensure:

   1) Collection of all safety data and information necessary for the most effective operation of SMS.

   2) Provision of all necessary safety reports (results of core SMS processes) to all management levels of BAV; the ASC and CAAV.

   3) For certain report types, BAV shall send feedback to acknowledge the receipt of report and/or results of report processing to the reporters.

   4) Report forms are kept at suitable places, easy accessed for users (such as: at airports, on-board BAV's aircraft and offices).

b) These report forms are designed to help the form users to submit as much useful safety information as possible to BAV.

c) All safety reports are made and encouraged to be made in written forms and can be in either Vietnamese or English languages.

d) Flight data is the valuable safety data that are used to identify and predict potential hazards in flight operation.

e) All safety reports shall be sent to SQA at the following address:

Safety & Quality Assurance Division – Bamboo Airways

22nd floor, Bamboo Airways Tower, Dich Vong Ward, Cau Giay District, Hanoi Capital, Vietnam.

Email: reports@bambooairways.com

7.3 INPUT REPORT OF SMS

7.3.1 SAFETY REPORTS

Safety report include the report below

a) Mandatory reports

b) Voluntary reports

c) Confidential reports

d) Regular reports

7.3.2 MANDATORY OCCURRENCE REPORT

The mandatory reporting of safety events is specified in:

a) Decree 75/2007/NĐ-CP dated 9th May 2007 of the Government;

b) Circular 01/2011/TT-BGTVT dated 27th Jan 2011 of the Ministry of Transport in VAR 19.027 List of Mandatory Occurrence Reports.

c) Decision 399/QĐ-CHK dated 25/02/2015 of Civil Aviation Authority of Vietnam.

Note: See Appendix 7.2.2 see details about the occurrences that BAV is responsible for reporting to the CAAV. The SQA is responsible for collecting the necessary information related to the incident and reporting to the CAAV.

7.3.2.1 Reportable occurrences

A mandatory report must be raised and submitted upon an Accident, Incident or Occurrence that happens in operation, maintenance or service providing processes of BAV. These mandatory reporting safety events are specified in CAAV Mandatory Occurrence Reporting Scheme.

In addition to accidents, occurrences subjected to mandatory reports are listed in Appendix 7.2.2 of this manual.

7.3.2.2 Classification of Mandatory occurrence

Aircraft Accidents, incidents and events are divided into 05 levels:

a) Level A: Aircraft accident

b) Level B: Serious incident

c) Level C: Major incident

d) Level D: Critical incident

e) Level E: Event

7.3.3 VOLUNTARY REPORT

[IOSA ORG 3.1.3]

a) All BAV employees, including but not limited to, pilots, cabin crew, dispatchers, ground operations staff and maintenance engineers are encouraged to provide the company with reports on safety occurrences and hazards, including identified safety deficiencies and safety concerns. These should be documented on SR forms.

b) BAV also encourages its service providers and their employees to support the company with safety information.

c) Voluntary safety reports can be submitted in free style form. However, the reporters should specify name, organization and contact details. The report should be made clearly and contain as much information as possible.

7.3.4 CONFIDENTIAL REPORT

[IOSA ORG 3.1.4]

All BAV staffs and individuals (including passengers or BAV customers) related can submit confidential safety report concerning safety issues or potential hazards in operation. In these reports, the reporters shall be specify his/her personal information and contact details. The reports shall be processed by a separate procedure so that the details shall be protected and kept confidential by SQA:

a) Confidential report form is shown in Appendix 7.3.6.3 of this manual.

b) Report concerning human factor issues should be submitted as confidential reports. Human factor issues may include:

1) Poor or aggressive communication between operational personnel;

2) Poor CRM skills between flight crew members, cabin crew members, or flight crew and cabin crew;

3) Poor DRM skills between flight crew and dispatchers;

4) Poor Human Factor/communication skills between ground staff, maintenance staff, flight crew and/or cabin crew that may have affected the safety of flight; and

5) Fatigue, drug and alcohol or other work performance related issues.

c) Confidential reports should be written clearly and contain as much information as possible.

d) BAV use the confidential box or email system to receive confidential reports, all confidential reports must be sent to, or delivered to the SQA at the following address:

Mr. Nguyen Trinh Binh

Safety & Quality Assurance Director

M: +84 901818047 | **E**: confidential@bambooairways.com

Or by confidential box

e) Report after removal of identity will be entered and processed as other safety reports. Assignated persons in the SQA to solving to maintain strict confidentiality

f) The identity is kept confidential unless agreed to by the employee or required by Law.

g) The SQA Director will maintain and administrate all confidential reports.

7.3.5 PERIODICAL REPORT

7.3.5.1 Periodical report to CAAV

a) Regular Report Requirement

1) In accordance with Decision 399/QĐ-CHK dated 25/02/2015 of CAAV, SQA is responsible for periodical reports about BAV fleet management to the CAAV, as follows:

(i) Monthly report: before the 17th day of every month;

(ii) Quarterly report: before the 17th of March, June and September;

(iii) Annual report: before the 17th of December.

Note: Periodical report will be included safety performance indicator that IAW SSP.

2) The company departments are responsible to report monthly to the SQA at least 2 days prior the listed due dates.

b) Report Content

Contents of periodical report to CAAV (report of fleet team management) in accordance with Appendix XIII of Decision 399/QĐ-CHK dated 25/02/2015 of CAAV.

7.3.5.2 BAV Periodic safety report

7.3.5.2.1 SAG, ASC report

[IOSA ORG 3.3.1]

Division/Department within BAV which are members of SAGs must submit periodic safety reports on safety issues, safety statistical data to SQA before 4th day every month. However, if there is request of sending report earlier than that time, SQA deploy to Division/Department. Safety report must have minimum of the following contents:

a) Result of implementing conclusions of ASC/SAG in previous month;

b) Safety issue in month according to work scope of department/division;

c) Identify hazards and assess safety risk in month.

d) Propose safety recommendations;

e) Hazard log;

f) Safety KPI.

7.3.5.2.2 IATA, EASA report

[IOSA ORG 3.1.7]

Division/Department within BAV must submit requested information to SQA to:

a) Ensure that SAR.23-Operator Questionaire on IATA Extranet is reviewed and updated once every 2 months.

b) In accordance with EASA requirement in periodic review of Third Country Operator (TCO) Authorisation, BAV is subject to EASA's continuous monitoring, periodically BAV must ensure that all the answers and documents in the Basic Operator Data (BOD) questionaire are current through the TCO Web-Interface.

7.3.6 REPORTING FORMS

The BAV safety report forms are defined in Chapter 16 Appendix 7.3.6, as follows:

a) Mandatory Occurrence Report - CAAV: MOR Form 14.

b) Bird Strike Reporting Form 01 and Supplementary Bird Strike Reporting Form 02 – Operator Costs and Engine Damage Information

c) Air traffic incident report – SQA-F510

d) Confidential report – SQA-F501

e) BAV Occurrence report – SQA-F503

f) Hazard report – SQA-F506

g) Fatigue report – SQA-F508

h) DGR report – GRH-F024

Note:

Content and form of Occurrence Report: MOR Form 14 and use of incident report forms captured in Annex V (MOR Form 14A - Vietnamese and MOR Form 14B - English) is in accordance with Decree No. 75/2008/ND-CP dated 9th May 2007 of the Vietnamese Government about incident / accidents investigation of civil aircraft.

Content and form of Bird Strike Reporting Form 01 and Supplementary Bird Strike Reporting Form 02 are in accordance with Decision No. 2669/QĐ-CHK dated 13 Nov 2019 of CAAV.

7.4 SAFETY REPORTING PROCEDURE

[IOSA ORG 3.1.3], [IOSA ORG 3.3.1]

7.4.1 Step 1: Submitting Safety Report

a) All BAV employees, especially those who regularly work or are directly involved in operational activities, ground operation activities or aircraft maintenance activities, such as: Pilots, Ground Operation staff, Maintenance engineers, are encouraged to send a SR for all occurrences, events and potential hazards in operation, maintenance and passenger services.

b) Once the safety event arises, the information will be reported by the staff on site. Reporter can use a pre-printed paper form or use electronic form (pdf, doc) to report the event.

7.4.2 Step 2: Receiving Safety Report

a) Every day, SQA will check the safety email and email to receive safety reports. The reporter is informed by email that the report was received, if required.

b) All received reports will be submitted to the SQA Director for evaluation and handling. Then, the safety report will be entered in the BAV' safety data systems.

c) The SQA will work with any party reporting events or hazards that have operational safety implications. Reports of events that do not have operational safety implications that are received by the SQA may be forwarded to relevant departments.

d) Safety reporting processes should reflect two possible outcomes:

1) SR: In this case the information is passed to the SQA by regular means, and subsequently dealt with as per the process of assessing the safety report.

2) Mandatory Occurrence Report: The SR requires immediate notification to the SQA Director and then the MOR will be submitted to CAAV. Some SR may need to be sent as an MOR.

7.4.3 Step 3: Classification of Safety Report

a) The purpose of this process is to quickly propose necessary actions which should be implemented in urgent and strictly time frame. Then, all report to be reviewed to determine the need to conduct an investigation or further assessment.

b) Right after happened, the occurrence will be reported by staff who is working at the site happened. Reporter can use an appropriate pre-printed report form in paper format or electronic form (pdf, doc) in order

to make an official report. Subsequently, the report will be sent to safety office of division/departments and SQA of BAV;

c) Everyday, reported safety events must be reviewed, assessed its risk in order to timely give appropriate actions and risk mitigation. This job should be implemented in a suitable time frame. This is a safety risk assessment based on events or occurence. All occurences happened will be stored in safety database of BAV.

d) When evaluating safety related incidents, the following should be considered:

1) Evaluating report for MOR requirements.

2) Occurrence risk classification process;

3) Defects found;

4) Frequency of the incident;

5) The extent of the incident;

6) The resources available.

e) Confidential reports are registered in the SQA and only the description of event will be sent to the relevant departments to handle.

f) Occurrences classified as Serious Incidents or with a risk rating of “Tolerable” or as decided by the SQA Director shall be the subject of an investigation according to Chapter 10.

7.4.4 Step 4: Reporting the MOR to the CAAV

a) After receiving the MOR, the MOR CAAV Form 14 will be filled up information and signed by SQA Director before sending it to the CAAV.

b) Within 72 hours from the time of incident (which is defined in Chapter 15 - Appendix) SQA should submit the report to CAAV and Airport Authority where the incident occurred.

7.4.5 Step 5: Investigation

a) After assessing safety reports related with MOR or serious safety hazards, the SQA Director will decide whether to assign an investigator to carry out an investigation.

b) Departments of SQA shall provide a written response to SQA Director describing the circumstances of the event and, if required, actions taken to mitigate the risk. Investigations shall be closed once the findings are reviewed and accepted by SQA Director .

c) Investigation procedures are described in detail in Chapter 10.

7.4.6 Step 6: Mitigation Action and Closure

Safety Risk Mitigation Process are described in detail in Chapter 8.2.5

7.5 SAFETY REPORTING FLOW CHART

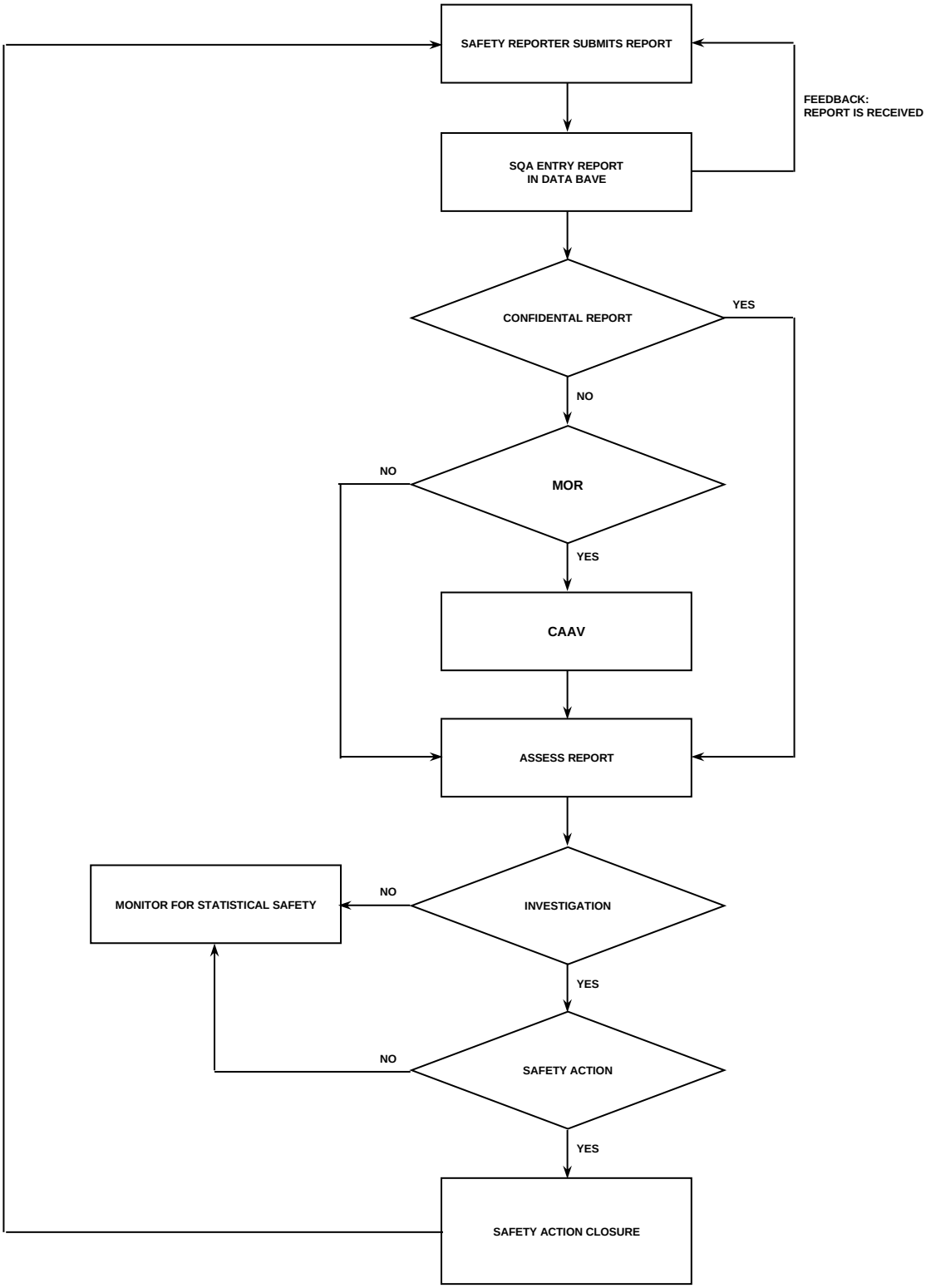

Figure 7-1 Safety Reporting Flow Chart

CHAPTER 8 HAZARD IDENTIFICATION & RISK ASSESSMENT

[IOSA ORG 2.1.5]

8.1 PURPOSE OF SAFETY RISK MANAGEMENT

8.1.1 Purpose

This part is to describe processes of safety risk management of BAV in accordance with regulations, standards and recommended practices issued by ICAO and IATA.

8.1.2 Responsibility

The CEO has full control of allocating resources and ensuring that finance necessary to manage safety risk is provided. The CEO is resposnsible for making decisions regarding risk tolerability (high) with respect to the safety and/or security of aircraft operations. Postholders are responsible for making decisions for the risk with lower tolerability such as “Moderate” or “Low”;

The ASC is responsible for directing and leading the SAGs on strategy of safety risk management for appropriate and specific safety issues; monitoring the effectiveness of safety risk management processes of BAV;

The SAGs are responsible for implementing safety risk management in accordance with the ASC’s direction; developing the strategy, target, project of safety risk mitigation toward the ALARP; establishing safety risk tolerabilities and submitting to the ASC and the CEO for approval; reviewing effectiveness and supervising safety risk management activities performed by Divisions/Departments;

Head of Divisions/Departments ensure that safety risk management in scope of that Divisions/Departments is effective; periordicaly report to appropriate SAG on performance results;

The SQA is responsible supporting the SAGs and ASC to oversee safety risk management activities at the Divisions/Departments; advising and supporting head of Divisions/Departments on safety risk management; assessing effectiveness of safety risk control.

8.2 HAZARD IDENTIFICATION AND RISK ASSESSMENT PROCEDURES

[IOSA ORG 3.1.1], [IOSA ORG 3.3.1]

8.2.1 Identifying a safety issue

8.2.1.1 Safety databases

No.	Name of database	Database description	Method of gathering information	Owner
1	Mandatary Occurrence Report- MOR	Incident, accident and occurrence shall be reported i.a.w Vietnam aviation regulation. Paper/email/electronic format. Access Supporting tool of management.	Reactive	SQA
2	Flight data analyzing system	Flight Parametters recorded by aircraft system DFDR, QAR and transmitting to server. Using AIRFASE software for analysing.	Predictive	SQA
3	BAV Operation Report	Operation reports, confidential reports from Flight crew, cabin crew, ground staff, … are sent to SQA and respective divisions. Paper/email/electronic format.	Reactive Proactive	SQA
5	Internal safety investigation record	Internal safety investigation reports. Paper/electronic format.	Reactive	SQA
6	Quality-Safety audit report and record	Records, safety-quality audit reports raised from the annual safety-quality audit program, LOSA Special safety-quality audit report. Paper/electronic format.	Proactive	SQA
7	Other Safety information	Gathering or exchange Web/Program	Proactive	External sources

8	Others databases hosted by Division and units: Flight crew, cabin crew division, AMO, Ground	(To be described later)	Reactive Proactive	Division, Unit

Table 8-1 List of existing safety databases

8.2.1.2 Analysing safety database in order to aware a safety issue

a) Safety analysis will be performed by safety officers working for Division, Departments in coordination with safety analysis expert of SQA;

b) Based on safety databases, safety performance indicators in order to identify essential/critical areas, specific activities/operations that may have high safety risk;

c) Analysing every specific circumstance in order to identify safety issues to which management is necessary. Each service may have one or some safety issues;

d) Depending on content of the safety issue, Division, Departments or SAG are responsible for doing safety risk assessment for identified safety issue.

8.2.2 Overview of safety risk management processes: (AC-01-003, mục 4.4.3.1.B)

a) Risk management is the identification, analysis and mitigation of risks associated with the hazards of an organization's operations. Risk assessment uses conventional breakdown of risk in its two components – probability of occurrence and severity of the projected risk should it occur.

b) Risk management contains three basic processes as follows: Hazard Identification, Safety Risk Assessment and Safety Risk Mitigation.

c) Flow chart of safety risk management processes as folows:

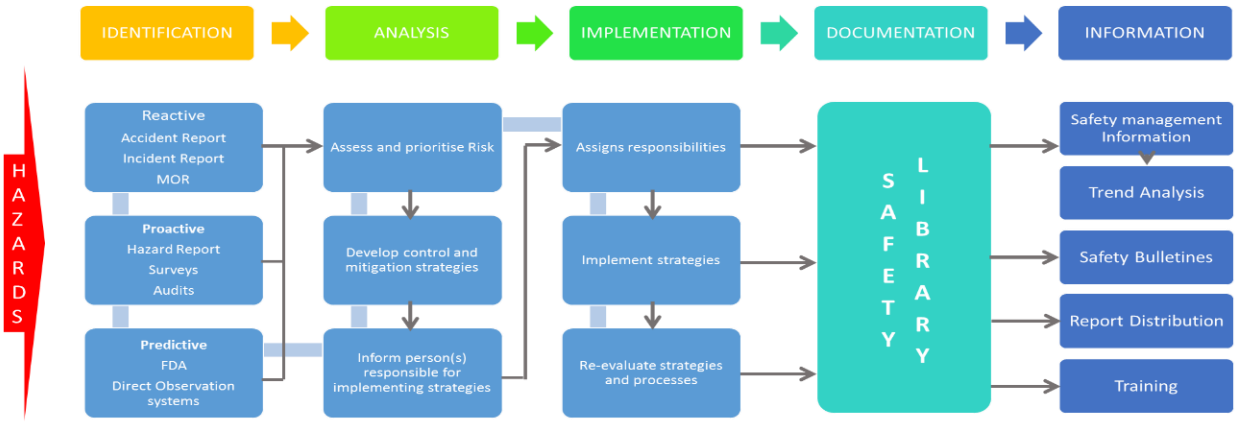

Figure 8.2. Flow chart of safety risk management processes.

8.2.3 Hazard Identification process (AC-01-003, mục 4.4.2)

8.2.3.1 Hazard Identification

[IOSA ORG 3.1.1]

a) Essence of identifying hazard is to be performed by personnel on safety information, events, occurences and incidents relating to safety during working;

b) BAV has been establishing a Safety Reporting System in order to facilitate to personnel for reporting and simply providing safety information on all operation areas. Chapter 7 of this manual describes Safety Reporting System of BAV.

c) Ensuring that safety information is timely, adequate, accurate, BAV has been establishing and implementing “Non-punitive reporting policy” and building a progressive safety culture. This subject is mentioned at Chapter 6 of BAV’ SMSM.

d) Beside on the safety reporting system, Safety and Quality Audit Program, Safety Survey, safety study and internal investigation implemented by BAV are value information sources of hazard identification (Re-active, Pro-active and Predictive). Refer to AC 01-003 4.4.2.2.

8.2.3.2 Identifying Hazards resided into the safety issue:

a) Safety officer of the Division, Departments in coordination with SQA safety analyst or appropriate SAG will identify hazards of specific activity/operation of the safety issue. For safety issues expanded on some disciplines, BAV can establish a safety action group in order to manage this specific safety issue.

b) In order to identify hazard (Including both general hazard and specific hazard or hazard’s components), Model “SHELL” is strongly

recommended. Content of the SHELL model and how to apply it have been mentioned at Appendix 8.2.3.2 to SMSM.

c) After this step, a list of identified hazards which exist in operation, services of departments and divisions will be registered.

8.2.3.3 Identifying consequence of identified hazard:

a) It is only when hazards interface with the operations of the system aimed at service delivery that their damaging potential may become a safety concern. Identifying the consequence is to specify incident, unwanted event which can occure in operation and service practices due to representation of that identified hazard.

b) Hazard can link to some consequences, not only one. It is important, therefore, to describe all likely consequences of a hazard during hazard analysis and not only the most obvious or immediate ones.

c) After identifying consequence of identified hazard, next step is to assess safety risk of consequence of identified hazard.

8.2.4 Safety Risk Assessment Process

[IOSA ORG 3.1.2]

8.2.4.1 Asessing safety risk of consequence of hazard

a) Safety officers, safety analyst, SAGs are responsible for implementing this activity.

b) Collecting all information relating the system, operation history, safety information…Identifying existing safety risk management measure (It is called “barrie” for safety management). Having two types of safety control are avoidance and recovery (reactive).

c) Model “Bow- tie” depicts safety risk management process:

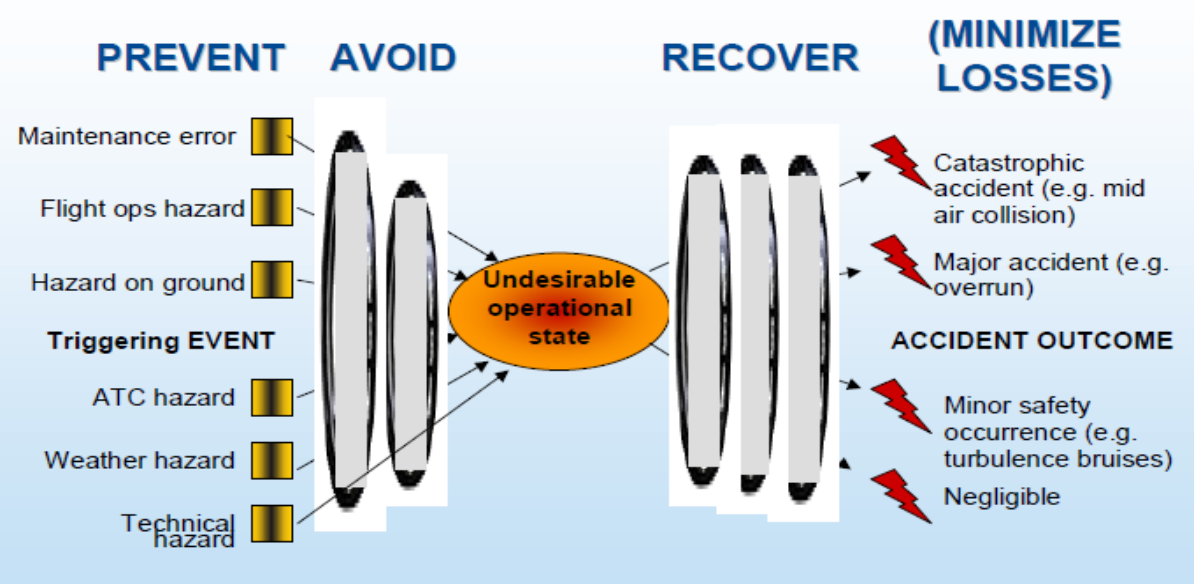

Figure 8-1 The model behind the Safety Issue Risk Assessment

8.2.4.2 Identifying existing safety risk value/index:

a) Existing safety risk index will be defined by based on two components of probability and severity of consequence of hazard;

b) Assessing the probability of the consequences of hazards:

Probability of consequence		
Qualitative definition	**Meaning (in aviation context)**	**Value**
Frequent	Likely to occur many times (has occurred frequently)	**5**
Occasional	Likely to occur some times (has occurred infrequently)	**4**
Remote	Unlikely, but possible to occur (has occurred rarely)	**3**
Improbable	Very unlikely to occur (not known to have occurred)	**2**
Extremely improbable	Almost inconceivable that the event will occur	**1**

Table 8-2 Identifying the probability of consequence

c) Assessing the severity of the consequences of hazards:

Severity of consequence		
Aviation definition	**Meaning (in aviation context)**	**Value**
Catastrophic	Aircraft / equipment destroyed; Multiple deaths;	**A**
Hazardous	A large reduction in safety margins, physical distress or a workload such that the operators cannot be relied upon to perform their tasks accurately or completely. Serious injury. Major equipment damage.	**B**
Major	A significant reduction in safety margins, a reduction in the ability of the operators to cope with adverse operating conditions as a result of increase in workload, or as a result of conditions impairing their efficiency. Serious incident. Injury to persons.	**C**
Minor	Nuisance. Operating limitations. Use of alternate procedures. Minor incident.	**D**
Negligible	Few consequences	**E**

Table 8-3 Identifying the severity of consequence

d) Matrix to identify safety risk index:

Safety Risk Probability		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

Table 8-4 Safety risk matrix

e) Safety risk tolerability:

Risk Index	Safety Risk Description	Safety risk Acceptability/ Mitigation solution Required	Code
5A, 5B, 5C, 4A, 4B, 3A	HIGH	Unacceptable under the existing circumstances. Recommended action: Cease or cut back operation promptly if necessary. Perform priority safety risk mitigation to ensure additional or enhanced preventative controls are in place to bring down the safety risk index to moderate or low.	R1
5D, 5E, 4C, 4D, 4E. 3B, 3C, 3D, 2A, 2B, 2C, 1A	MODERATE	Acceptable based on the safety risk mitigation. It may require management decision Recommended action: Schedule performance of a safety risk assessment to bring down the safety risk index to low range if viable.	R2
3E, 2D, 2E, 1C, 1D, 1E	LOW	Acceptable. Recommended action: No more mitigation action is necessary.	R3

Table 8-5 Safety risk tolerability

8.2.4.3 Hazard identification and safety risk assessment report:

BAV HAZARD LOG

Haz. Code	Reg.	Flight No	Route	Event	Date	Hazard Identification	The safety measures existing	Possible Consequences	Risk Asst.	M/A Req.	Mitigation actions implementation	Department Responsibility	Date Closed	Re-assess risk (Residual risk)	Status
CAB		QH224		CCD would like to send to SQA our report regarding to "Cockpit normal entry password" Details: on flight QH224, 5/6. Due to operate with minimum crews on A320, Cabin Manager supported Eco cabin service and shared "cabin normal entry password" for Business crew to collect the trays. But after flight Capt didnot agree with Cabin Manager that "password" cannot be shared to anyone.	05.06.2019	Cockpit normal entry password may reveal secret.	Security program; FOM; Cabin manual.	Hi-jack;	1B	Yes	Cockpit Normal entry password and Emergency entry password (keypad) must be established between cockpit crew and CM. CM can share the passwords to another cabin crew when he/she is not available.	SECURITY DEPT. FCD, CCD.			Monitoring

Table 8-6 Form of List of Identified hazard and safety risk management (Example).

8.2.4.4 Dissemination of safety issue and information:

Hazard identification and safety risk managemenn report will be presented at an appropriate safety review meeting.

Dissemination of safety information will be accompanied in accordance with Chapter 11.2 Safety Communication.

8.2.4.5 Execution records:

a) Reporting of safety risk assessment of occurences and safety events.

b) Reporting of Safety issue risk assessment.

c) Reporting of management of change.

8.2.5 Safety Risk Mitigation Process

[IOSA ORG 3.1.8]

8.2.5.1 Responsibility

a) CEO have responsibility to ensure resources in order to implement safety objectives, target, plan and project of safety risk mitigation toward ALARP.

b) ASC, SAG monitor safety strategy and effectiveness of the agreed plan, project of safety risk mitigation on related disciplines.

c) Postholders, Head of Divisions/Departments are responsible for developing the strategy, target, project of safety risk mitigation toward the ALARP and deploying that project when approved.

8.2.5.2 Safety risk mitigation strategies

The three generic safety risk mitigation approaches include:

a) Avoidance: The activity is suspended either because the associated safety risks are intolerable or beyond cost and associated benefit.

b) Reduction of operation: Some safety risk exposure is accepted, although the severity or probability associated with the risks are lessened, possibly by measures that mitigate the related consequences.

c) Segregation of exposure: Action is taken to isolate the potential consequences related to the hazard or to establish multiple layers of defences to protect against them.

8.2.5.3 Steps to implement mitigation

[VAR 12.075(a)(2), [IOSA ORG 3.1.2]

a) After safety risks have been assessed, next step of safety risk management is to develop strategy, project, plan and then carry out in order to control the safety risk toward ALARP.

b) In order to ensure that safety target and effectiveness of the safety project will be gained, whole process of mitigation shall be monitored, supervised and measured in accordance with safety assurance program. Refer to Chapter 9 of the SMSM.

c) Depending on level of important of the safety issue and scope of impact to BAV, ASC will review and propose an appropriate safety risk mitigation strategy for approval by CEO. SAGs or assigned departments, divisions (For example: OCC, Flight Crew division…) to implement the strategic direction developed by the ASC.

d) Not depending on department or division authorized, steps of safety risk mitigation of the safety issue are including as following:

1) Selecting an appropriate safety risk mitigation strategy: These are responsibilities of Postholder or Head of Divisions/Departments . It may be selected one in three strategies mentioned at paragraph 8.2.5.2 or combination of them;

2) Developing the mitigation solution (Project, program, plan): SAGs team or Postholder or Head of Divisions/Departments are responsible to develop the mitigation solution. It may be given some solutions and then make decision as appropriate;

3) Assessing the solution: each proposed solution will be review about effectiveness, cost and benefit, feasible, challenges, acceptable to stakeholders, time frame, raising new hazard;

4) Proposal and approval: After the solutions developed and submitted by SAG or Head of Divisions/Departments, BOD/Postholder will approve and then direct to deploy;

5) Deployment of approved solution: This is responsibility of SAGs, Departments and or Divisions when the safety risk mitigation solution has been approved;

6) Following is the safety assurance processes in order to define effectiveness and performance of that solution. This responsibility is rest of SQA.

8.3 DOCUMENTS AND RECORDS

a) Division, Departments are responsible for storing records of hazard identification and safety risk management at least 05 years;

a) SQA keeps the hazard identification and safety risk management at least 5 year.

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CHAPTER 9 SAFETY ASSURANCE

[IOSA ORG 1.5.2], [IOSA ORG 2.1.5]

9.1 SAFETY PERFORMANCE MONITORING AND MEASUREMENT

[Reference: VAR1 1.185; Appendix 4; VAR 12.075; AC-01-003 5.1; Doc 9859 2.12; 5.3.66-5.3.73]

9.1.1 Notions and Definitions.

9.1.1.1 **Safety levels:** are basic features to present quality of the safety management system. The safety levels are objectively through the set of safety performance indicator, their targets and alert levels.

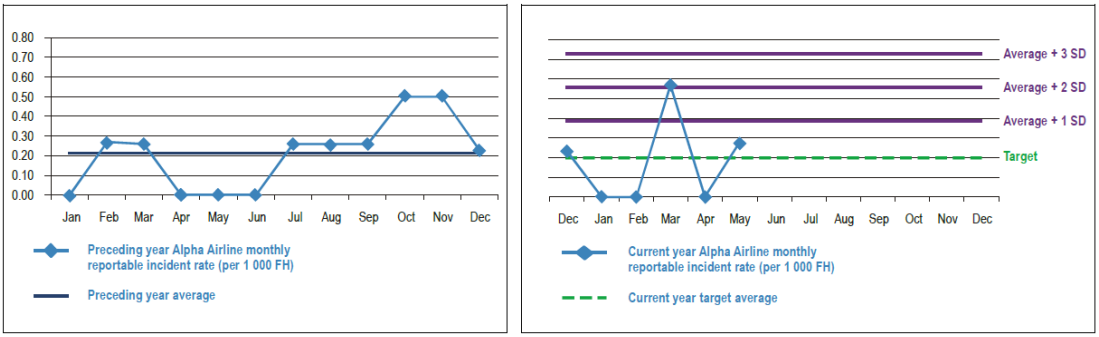

Figure 9-1 Safety Levels Example

9.1.1.2 **Set of safety performance indicators:** are a set of specific and typical parameters on degree of performance of the SMS. The set of safety performance indicators shall be corresponding size, operation scope of the organization and they are recognized and acceptable to CAAV.

9.1.1.3 **Value of the safety performance indicators:** are results of measuring on performance of the indicators, in basic of specific time duration, reflecting safety performance of the organization.

9.1.1.4 **Safety performance target:** An safety objective or result towards which efforts are directed by the organization. This target shall be specific, accuracy and measurable and correspondence with organization's resources. The target shall be periodically reviewed and accepted by ASC;

9.1.1.5 **Value of the safety performance target:** is a specific figure of objective or result towards which efforts are directed by the organization on safety.

9.1.1.6 **Acceptable level of safety (ALoS):** The minimum level of safety of a service provider, as defined in its safety management system, expressed in terms of safety performance targets and safety performance indicators.

9.1.1.7 **Safety warning levels:** are components which present of the Acceptable level of safety. When alert conditions are triggered, the organization shall immediately implement appropriate safety actions in order to define root

causes, safety risk management and issue mitigations to fix abnormal trends which are not acceptable.

9.1.1.8 A sample of safety performance indicator, safety target and acceptable level of safety (safety alert levels) which are recommended by ICAO Doc.9859 Ed.3 SMM.

9.1.2 General policy on BAV Safety performance indicators

9.1.2.1 BAV sets, expands and maintains the set of safety performance indicators in accordance with the state safety program, safety policy, safety objectives and safety target.

9.1.2.2 The set of safety performance indicators, with reference value (including value of safety performance target, acceptable levels of safety and safety alert levels) of each safety performance indicator will form a set of safety performance indicators of BAV.

9.1.2.3 The set of safety performance indicators of BAV are determined including all indicators as required by State safety program (SSP 2.2.2) and adding more safety performance indicators in according to BAV safety policy, safety objective and safety target.

9.1.2.4 Values of safety performance target, acceptable levels of safety and safety alert levels) of each safety performance indicator, express safety objective or result towards and acceptable tolerability to abnormal trend of the indicator of BAV. Every year, these values are reviewed and submitted by SAG, units to ASC for approval.

9.1.2.5 The set of safety performance indicators attached with their references values are approved by ASC and acceptable to CAAV. In case of changes as adding, deleting or adjusting to reference values, alert levels or acceptable level of safety, BAV shall report to CAAV for approval. BAV will deploy once these changes are effect.

9.1.2.6 A set of safety performance indicators are mentioned in Appendix 9.1.1 to this manual.

9.1.3 Method expression of safety performance indicator.

9.1.3.1 Way to express trend (paragraph) of safety performance indicator. See example illustration as following:

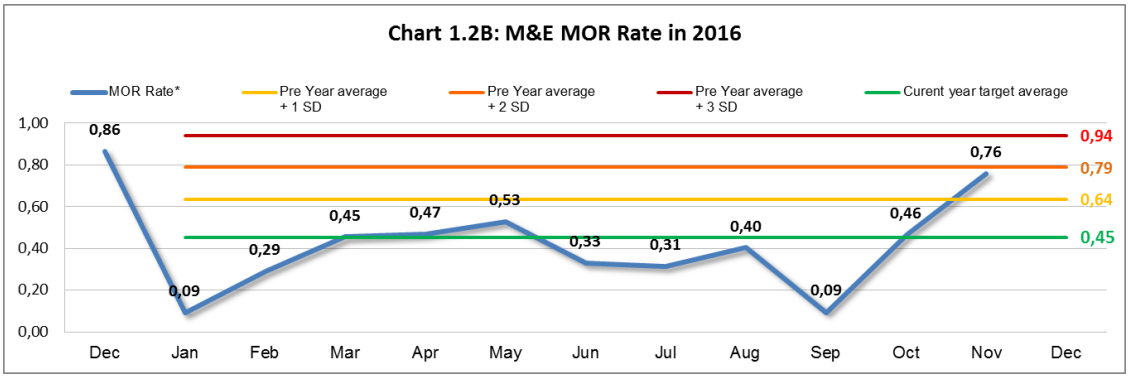

Figure 9-2 Sample expression on safety performance indicator

Description of the indicator, target and acceptable level of safety:

- Name of indicator: Aircraft concession rate

- Method identifying performance value:

$$\text{Performent value} = \frac{\text{Numbers of Concessions X 1000}}{\text{Total of Flight in month}}$$

- Green line expresses a target for striving and commitment.

- Red line, orange line and yellow line express 03 alert levels high, medium and low in turn.

9.1.3.2 Method identifying target value, acceptable level of safety values.

a) Safety performance target:

1) Base on the safety object and direction by ASC, Safety performance target of next year will be determined appropriately;

2) When reviewing safety performance target, it is necessary to study average performance value of the indicator of preceding year, valuable safety budget and assessment of cost-benefit in order to obtain the expectation;

3) BAV applies method identifying the safety target mentioned in ICAO SMM Doc.9859, Appendix 6 to Chapter 5, Table 5-A6-1:

High-consequence indicators (occurrence/outcome-based)			Lower-consequence indicators (event/activity-based)		
Safety performance indicator	Alert level criteria	Target level criteria	Safety performance indicator	Alert level criteria	Target level criteria
Air operator individual fleet monthly serious incident rate (e.g. per 1000 FH)	Average + 1/2/3 SD (annual or 2 yearly reset)	_% (e.g. 5%) improvement between each annual mean rate	Operator combined fleet monthly incident rate (e.g. per 1000 FH)	Average + 1/2/3 SD (annual or 2 yearly reset)	_% (e.g. 5%) improvement between each annual mean rate
Air operator combined fleet monthly serious incident rate (e.g. per 1000 FH)	Average + 1/2/3 SD (annual or 2 yearly reset)	_% (e.g. 5%) improvement between each annual mean rate	Operator internal QMS/SMS annual audit LEI % or findings rate (findings per audit)	Consideration	Consideration
Air operator engine IFSD incident rate (e.g. per 1000 FH)	Average + 1/2/3 SD (annual or 2 yearly reset)	_% (e.g. 5%) improvement between each annual mean rate	Operator voluntary hazard report rate (e.g. per 1000 FH)	Consideration	Consideration

Figure 9-3 Examples of safety performance indicators for air operators

b) Acceptable levels of safety:

1) Acceptable levels of safety is expressed by 03 safety alert lines: High level, medium level and Low level;

2) Calculating values of alert levels is depend on safety object, safety policy, safety tolerability and budget for investment of BAV;

3) Following ICAO safety recommended and practice mentioned in SMM Doc.9859, the alert level lines for current year are average + 1/2/3 SD;

4) In accordance with safety object, safety policy, safety tolerability and safety budget, safety coefficient 1/2/3 may be considered, adjusted by ASC.

c) Rules defining safety Alert level trigger based on safety trend monitoring of the indicator.

Based on continuously monitoring safety performance value of each indicator at safety meeting (SAG, ASC), comparing to acceptable level of safety, an alert level can be triggered:

d) Any single point is above the 3 SD line; or

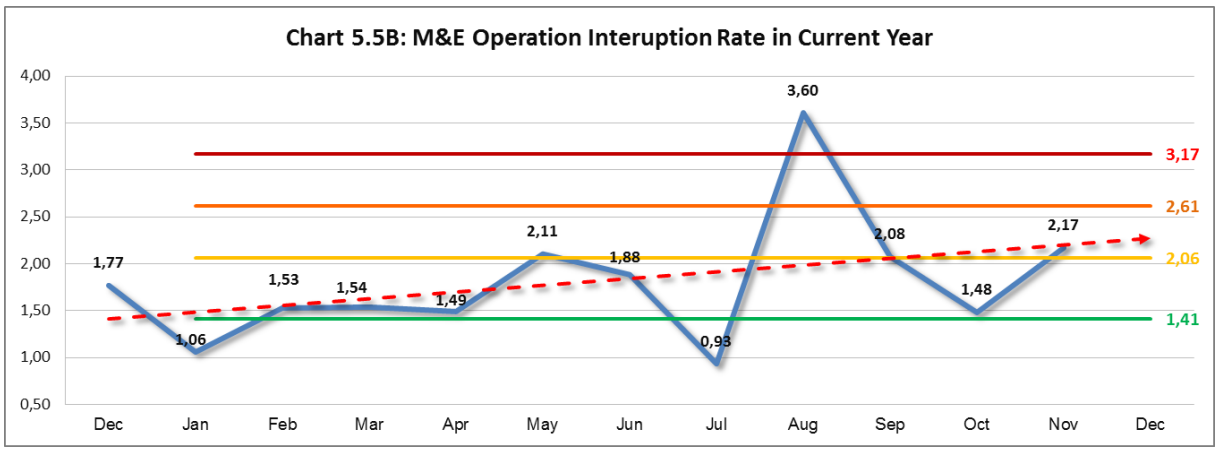

Figure 9-4 Safety warning is triggered when a single point (in August) is above the 3 SD line

e) Two consecutive points are above the 2 SD line; or

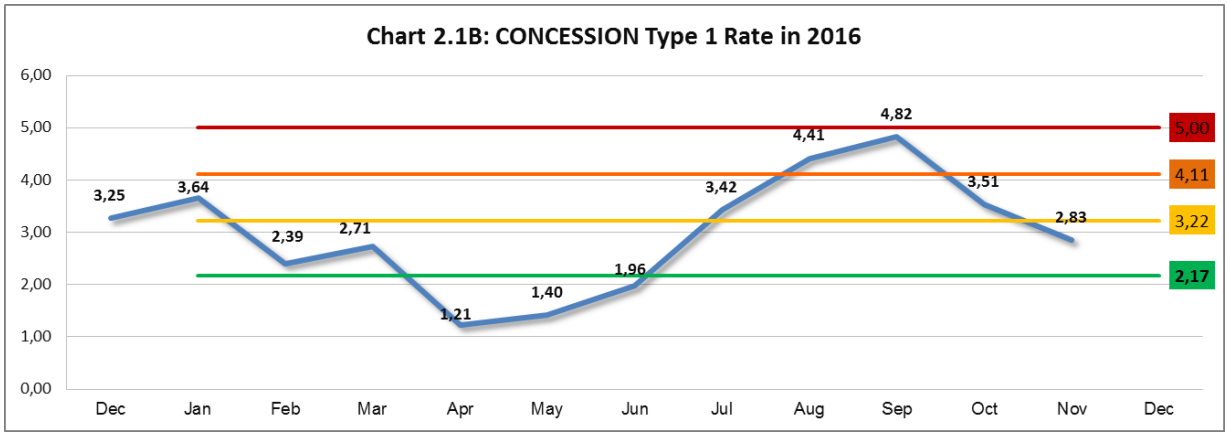

Figure 9-5 Safety warning is triggered when two single points (in August, September) are above the 2 SD line

f) Three consecutive points are above the 1 SD line

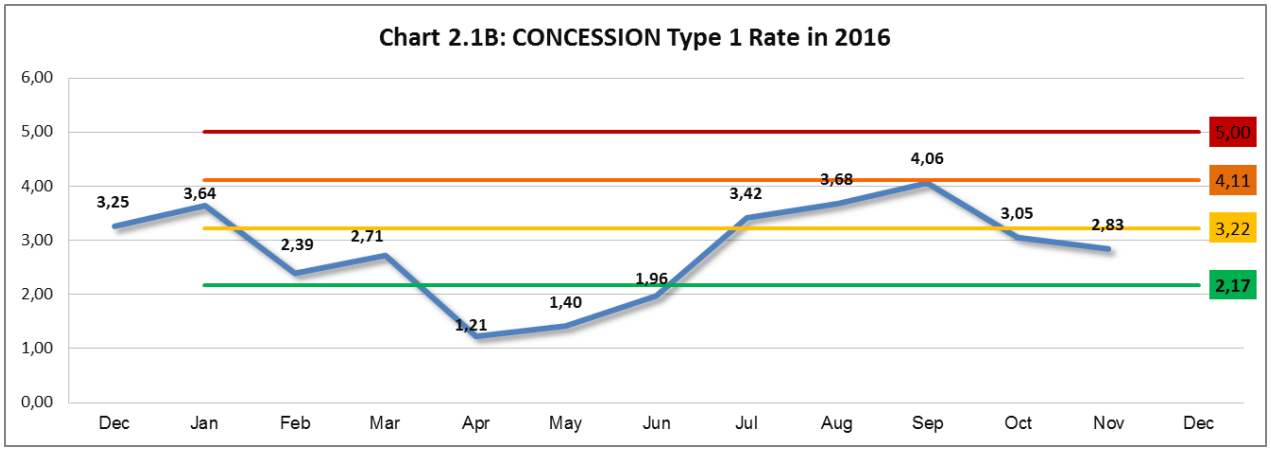

Figure 9-6 Safety warning is triggered when three single points (in July, August, September) are above the 1 SD

9.1.4 Process of setting and selecting safety performance indicators.

[IOSA ORG 3.2.1B]

9.1.4.1 A set of safety performance indicators of BAV have been establishing and developing for several years. List of indicators is presented at Appendix 9.1.1 and 9.1.2 of the SMSM. Every year, the set of indicator will be reviewed and approved by ASC. Then, the set of indicator will be reported to CAAV for approval or recognition.

9.1.4.2 Safety & Quality Assurance Division is responsible for studying, analysing safety reporting system, safety database (For example: AIRFASE, MOR...) in order to identify operations and activities where are subject to safety concern and effectiveness of safety mitigation, new safety performance indicators will be added and reporting to SAG, ASC for consideration.

9.1.4.3 BAV safety performance indicators will be selected if following minimum requirements are met:

a) Specific, typical characters for safety level of the system, in accordance with safety policy, object and target of BAV.

b) Typical characters for operations of BAV. Safety Indicators should be specified operation and activities related to.

c) Be measurable.

d) To update timely requirements of State Safety Program (Safety performance indicators are mentioned in SSP).

e) Any changes, revisions on safety policy, object and safety target of BAV.

f) Value of safety performance indicators in preceding year;

g) Safety resources balance.

h) Exchange on safety information with Airlines, safety group…

9.1.4.4 SAG will review recommendations submitted by SQA and also will report to ASC for adding, revising, deleting the safety performance indicators for approval.

9.1.4.5 ASC will review the report submitted by SAG at the meeting and then ASC will make decision appropriately.

9.1.4.6 After the set of safety performance indicator are granted by ASC, SQA is responsible for deploying following procedures: updating the set of safety performance indicator of BAV to the SMSM, submitting to CAAV for recognition, approval and disseminating this set of indicators to SAG and Division, Departments for implementation.

9.1.4.7 Method identifying value of safety performance target for next year:

a) SQA is responsible to measure performance of each indicator in preceding year: reviewing average performance value, verifying in reference to the safety performance targets.

b) Based on safety objectives, direction on safety management activities approved by senior management and ASC (Example: 5% improvement between each annual mean rate), SQA in coordination with SAG, Division, Departments will determine value of safety performance target for next year.

c) When the safety target has been approved, SAG, Division, Departments are responsible for developing solutions, plans (including safety budget for implement) in order to obtain the approved safety target, then submit to senior management, ASC for approval.

d) Senior management, ASC will review and approve value of safety performance target, the safety solution, plans submitted by SAG, departments and divisions.

e) SQA will inform, deploy the target, safety action plan for the year to SAG, Division, Departments for implement. Beside this, SQA is responsible for monitoring, measuring and reporting results at SAG monthly meeting, ASC meeting.

f) In case of the safety solution is not effective, SAG, Division, Departments are responsible for reviewing, adjusting, reporting to the senior management, ASC via SQA for approval

g) After that, the process will be repeated again from step c).

h) At the end of the year, ASC, SAG, Division, Departments will sum up performance results and prepare a new target for next year.

9.1.4.8 Acceptable level of safety for each indicator will be defined as following:

a) The highest requirement on safety raised from the State safety program (ALoS).

b) Preceding year performance value which are measured based on statistic and database;

c) In accordance with the approved safety policy, objective and target.

d) In accordance with ICAO Doc.9859 Ed.3 SMM recommended practices, having 03 levels set alert levels are high alert level, medium alert level and low alert level. Their values are determined as following:

Value of High alert level	*= Average in preceding year + 3x Standard Deviation SD*
Value of Medium Alert Level	*= Average in preceding year + 2x Standard Deviation SD*
Value of Low alert level	*= Average in preceding year + 1x Standard Deviation SD*

Depending on the safety policy, objective and safety tolerability approved by BAV senior management, ASC, safety coefficient 3/2/1 as mentioned above can be revised appropriately.

9.1.5 Safety performance Monitoring and measurement

[IOSA ORG 3.2.1B]

a) Monitoring and measuring of safety performance is a process to review the safety performance indicators against **BAV**'s safety objectives and safety goals. Each safety indicator is considered, referred to its reference values (acceptable level of safety (ALoS) - alert level and safety performance target value - desired level) which have been established.

b) The monitoring, measurements are implemented as follows:

1) SQA and SAGs performs statistic and review the safety database, performs measurement continuously safety performance indicators and repots to BAV senior management, ASC, SAG for reviewing at periodical safety management meeting.

2) SAG will review the indicator at monthly meeting. If that indicator is greater more than the ALoS, SAG team leader is responsible for deploying action, identifying the root cause and giving specific solution in order to ensure that safety performance indicator will be back the ALoS and get the target.

3) ASC will continuously monitor safety performance results by the way to review the set of safety performance indicators at

periodical meeting. ASC will direct and make objective to SAG for necessary actions.

4) When an alert is triggered, risk assessment shall be performed by appropriate department, Divisions following ASC and SAG directions.

5) Department, Divisions are responsible for implementing appropriate actions as following:

6) Investigation in order to make clearly the root cause why this trend is sharply increasing.

7) Advices for measurement control in order to resolve this problem of abnormal increasing trend and controlling the indicator in expectation of ALoS and the target.

8) Submitting authorized person for approval of plan, program, solutions package. BAV management, Department directors, Divisions managers are responsible for reviewing and approval in accordance with authorization.

9) Deploying to perform the plan, program, solution which are approved by the authorization.

10) Reporting the results.

c) **SQA** is responsible for monitoring, assessment, measurement the effectiveness of safety solution deployed by SAG, Division, Departments.

d) Examples of safety performance indicators as ICAO Doc.9859 Ed.3 SMM/ Appendix 6.1 to Chapter 5 (Table 5-A6-1)

Safety Performance Indicators		
Naming of the indicator	**Acceptable Level of Safety**	**Safety Target**
Rate of Mandatory Occurence Report which are classified in A/B/C/D/E for fleet per 1000 filghts	Average in preceding year + 3/2/1 x Standard Deviation	__% (e.g. 5%) improvement between each annual mean rate
Rate of Engine In flight shut down per 1000 filghts for the fleet	Average in preceding year + 3/2/1 x Standard Deviation	__% (e.g. 5%) improvement between each annual mean rate

Table 9-1 Examples of safety performance indicator

e) BAV has plan to apply some safety management tools and software for ensuring safety, quality for operations and activities:

1) Integrated Safety- Quality system (To be determined).
2) Flight monitoring system and analysis (AIRFASE).
3) Aircraft and engine status and health monitoring (Airman, AHM).
4) Reliability Program.
5) Safety audit program and Quality Assurance program integrated.
6) Line operation safety audit LOSA.
7) SIM quality assurance program.

Remarks: *The safety management tools and software mentioned before are operated by Division, Departments of BAV in accordance with approved documents.*

9.2 SMS AUDIT AND SAFETY REVIEW

[Reference: VAR 12.075 (a)(3)(4); AC-01-003 5.3; Doc 9859 5.3.78; 5.3.82]

9.2.1 Introduction to Continuous Improvement SMS Audit

[IOSA ORG 3.4.6]

a) The company plans annual audit/reviews of BAV quality and safety performance, including an internal assessment of the Safety Management System, to ensure its continuing suitability, adequacy and effectiveness.

b) Scope of an internal SMS audit should include:

1) Regulatory SMS requirements;
2) Structure of safety accountabilities;
3) Organizational safety policies and standards;
4) Documentation, including SMS manual and SMS records;
5) Compliance with SMS hazard/ risk evaluation procedures;
6) Adequacy of staff training for their SMS roles;
7) Performance indicators and Acceptable Level of Safety;
8) Compliance with safety assessment plan or schedule;
9) Effective SMS integration with other control systems;
10) SMS integration with contractors where applicable;
11) Continuing assessments and management of change;
12) Review completed safety assessments for any that may be obviously sub-standard or inadequate.

c) It shall be the responsibility of the head of department being audited to ensure corrective or mitigating actions are taken promptly to resolve the non-conformance.

d) The auditor shall review and close the audit. The completed audit report shall be kept by SQA.

e) Over and above SMS audits, safety reviews or surveys may be employed as a proactive procedure for examining particular elements, processes or a specific operation for any safety concerns or sub-standard performance.

f) In compliance with IOSA standard, SMS internal audit will be carried out before the renewal of IOSA certificate.

g) Safety surveys may be initiated as a follow up to informal feedback or voluntary/confidential reports to identify issues that may contribute to generation of hazard/risks or their escalation factors, such as:

1) Problem areas or bottlenecks in daily operations;

2) Perceptions and opinions about personnel's competency with possible safety implications;

3) Poor teamwork and cooperation between employee groups or departments (especially involving safety / operational / technical functions);

4) Areas of dissent or perceived confusion (especially involving Safety /operational /technical functions) ;

5) Unsafe working procedures or conditions;

6) Prolonged working hours or long-term man-power shortage, etc.

9.2.2 Safety Audit Program

[Reference: VAR 12.075 (a)(2)(3)]

a) BAV safety audit program is integrated to its quality audit program, and the integrated program is named "Safety - Quality Audit Program". Details of this program such as: Audit plan, auditor, methodology, procedures, etc. is addressed in the company's Quality Manual and other relevant manuals, such as FOM, MME, COM, and GOM.

b) The scope of BAV Safety – Quality audit program is all SMS and QM activities. The audit program shall focus on all processes of the four (4) SMS core components to assure effectiveness and compliance of the system with the requirements imposed:

1) Safety policy and objectives;

2) Safety risk management;

3) Safety assurance; and

4) Safety promotion.

c) In addition, Safety - Quality audit also audits daily operational processes of BAV in order to disclose potential hazards and processes with the aim of improving the processes. For this purpose, Safety – Quality audit focuses on areas with potential hazards recognised through HIRA, and critical areas which has an effect to the statistical safety and quality performance indicators. The following areas are:

1) Flight operation activities (that include inflight audit of flight and cabin crews);

2) Activities of subcontracted service providers: Maintenance; Fuel services; Catering; Training services);

3) Other ground services (if any). Cargo operation (including Dangerous Goods).

4) Audit results show effectiveness of the SMS and its compliance with requirements.

5) Safety - quality audit findings and recommendations are valuable input data for system correction and improvement.

6) Appropriate audit program and plan with continuous monitoring of safety indicators shall help BAV in identification and correction of any safety issues in a timely manner.

9.3 LINE OPERATIONS SAFETY AUDIT (LOSA) PROGRAM

9.3.1 Introduction

[IOSA ORG 3.3.14]

a) The LOSA program is managed by the SQA and its purpose is to enhance flight safety through the routine observation of flight crew operations.

b) LOSA is an internal QA audit carried out by a flight crew auditor as observer on a typical revenue flight. The auditor's responsibility is to monitor the operating flight crew and report on Standard Operating Procedures & Crew Resource Management.

c) LOSA program is a trend monitoring program and its analysis outcomes may result in changes to SOPs, Manuals and training programs.

d) LOSA will not be used to monitor individual performance.

9.3.2 Purpose

To improve the safety of Flight Operations and to improve the awareness of human factors in aviation:

a) Organizational strategy aimed at developing countermeasures to operational errors. It is used to identify threats to safety and minimize the risks of such threats by recommending measures to manage human error.

b) Proactive safety data collection program. The data generated provide snapshot of operational strengths and weaknesses.

c) Proactive approach to error management by identifying trends and trying to identify negative consequences of human error.

d) The data collected by the LOSA process will be confidential and cannot be used to punish the crew. Data is de-identified so as not to link any particular flight or crew.

9.3.3 Goals of LOSA program

[IOSA ORG 3.3.14]

a) Heighten safety awareness of the line pilot;

b) Identify and differentiate THREATS and ERRORS;

c) Identify which area of operations to observe i.e. SOP, airport or phase of flight;

d) Obtain hard data for how crews manage threats;

e) To measure and document what is happening on the line;

f) To provide feedback on the system so enhancements can be made;

g) Monitor results LOSA enhancements.

9.3.4 Scope of LOSA

All company's routes, international, domestic, short-haul and long-haul should be audited. The number of flights to be monitored will be depended on capacity and other factors.

9.3.5 LOSA Coordination

SQA:

a) Responsible Administer the LOSA program;

b) Schedule the LOSA audits and assign observers in cooperation with rostering; and

c) Coordinate with the Flight Safety Officer to analyse audit findings and provide feedback results to Flight Operations and Flight Training Departments.

d) Responsible to determine specific areas on which the LOSA to concentrate;

e) Based on result of analysis to develop enhancements of SOPs;

f) Responsible to provide valuable input and suggestions for the smooth conduct of the LOSA;

g) Ultimately many of the problem areas and the potential benefits that are identified during a LOSA must be corrected or implemented.

9.3.6 LOSA Observation

The LOSA observations should contain the following elements:

a) Jump seat observation during normal flight operations

b) Voluntary crew participation

c) De-identified, confidential and safety minded data collection

d) Trusted and trained observers

9.3.7 LOSA Observers Qualification

LOSA observers shall be nominated by the Flight Operations Postholder and accepted by the SQA Director before conducting LOSA audits.

a) For in-flight observer (FLT) the following prerequisites shall be met:

1) Be a flight crew with at least 5 years of experience in flight operations, 5000 flying hours and 1000 hours on type;

2) Current PIC;

3) Have knowledge of aviation transportation of ICAO, IATA, CAAV, FAA, EASA and operational regulation of aviation authorities and BAV related to flight operations, standard operating procedures;

4) Be introduced to LOSA program as well as audit procedures;

5) Passed internal audit training course;

6) English proficiency level shall be met with flight crew qualification;

7) Not hoding any management positions in Flight crew department to ensure the independence of audit;

8) Be approved by Bamboo Airways management.

b) For in cabin observer (CAB), the following prerequisites shall be met:

1) Having a minimum of 03 years of total work experience as Chief purser and 1000 hours of experiences;

2) Have knowledge of aviation transportation of ICAO, IATA, operational regulation of aviation authorities, BAV related to cabin operations;

3) Be introduced to LOSA program as well as audit procedures;

4) Passed internal audit training course;

5) English proficiency level shall be met with cabin crew qualification;

6) Not holding any management positions in Cabin crew department to ensure the independence of audit;

7) Be approved by Bamboo Airways management.

9.3.8 Data Storage

Data will be stored securely with the SQA where confidentiality will be assured. At the end of the audit period the data will be verified and prepared for analysis.

9.3.9 LOSA grading criteria

Grading of LOSA Observation is based upon the following criteria:

a) S: If observed Satisfactory;

b) U: If observed Unsatisfactory;

c) N/A: Not Applicable

d) Reporting

The reporting form will follow the format below:

e) Introduction: Definition of LOSA and why it was conducted

f) Executive Summary: Summary of the major LOSA findings

g) Section Summaries:

1) Demographics;

2) Safety interview results;

3) External threats and Threat management results ;

4) Flight Crew Errors and Error management results ;

5) Threat and Error countermeasures results;

6) List of threat and flight crew error observed with proper coding and how each was managed or mismanaged.

9.4 CABIN SAFETY PROGRAM

9.4.1 General

a) Cabin safety is aimed at minimizing risks to the occupants of the aircraft. By reducing or eliminating hazards with the potential for creating injuries or causing damage, cabin safety focuses on providing a safer environment for the occupants of the aircraft.

b) The range of threats to the aircraft and its occupants include:

1) In-flight turbulence;

2) Smoke or fire in the cabin;

3) Decompression;

4) Emergency landings;

5) Emergency evacuations; and

6) Unruly passengers.

c) The work environment and working conditions for cabin crew are influenced by a diverse set of human performance issues that may affect how crew respond to threats, errors and other undesirable states cabin.

d) The cabin crew are usually the only company representatives that passengers see while in the aircraft. From the passengers' perspective, the cabin crew are there to provide in-flight service. From the perspective of senior management, the cabin crew may have more to do with creating a favorable corporate image. From a regulatory and operational perspective, cabin crew is on board to manage adverse situations that may develop in the aircraft cabin and to provide direction and assistance to passengers during an emergency.

e) Following a major aviation accident, investigative attention will likely focus initially on flight operations. As guided by the evidence, the investigation may then expand to include other issues. The triggering event for an accident rarely begins in the passenger compartment. However, improper response by cabin crew to events in the cabin may have more serious consequences. For example:

1) Incorrect loading of passengers (e.g. weight and balance considerations);

2) Failure to properly secure the cabin and galleys for take-off and landing and in turbulence;

3) Delayed reaction to warnings (e.g. of in-flight turbulence);

4) Inappropriate response to events in the cabin (e.g. electrical short-circuits, smoke, fumes, or an oven fire); and

5) Failure to report significant observations (such as fluid leaks, or wings contaminated by snow or ice) to the flight crew.

f) With much of the cabin crew members' routine activities focused on cabin service, extra effort is required to ensure that cabin service is not provided at the expense of fulfilling their primary responsibilities for passenger safety. It is essential that training and operating procedures for cabin crew address the full range of issues that could have safety consequences.

9.4.2 Human Performance Issues Affecting Cabin Safety

a) The work environment and working conditions for cabin crew are influenced by a diverse set of Human Factors. Some of the more common factors to consider in developing **a cabin safety program include.**

b) Crew Resource Management (CRM). With ever-larger cabin crews, the cabin crew must work together as a team. CRM training for cabin crew could include:

1) Communications and interpersonal skills. Hesitancy to communicate important data to other team members could jeopardize a flight. Polite assertiveness is required for effective teamwork;

2) Situational awareness. Maintaining an accurate perception of evolving events requires questioning, cross-checking, refinement and updating of perception;

3) Problem solving, decision-making skills and judgment may be critical in the event of an in-flight emergency or in a situation requiring emergency evacuation or ditching; and

4) Leadership/followership skills. While in charge, cabin crew requires well-developed leadership skills, but individual cabin crew members must respect command authority during an emergency.

c) Fatigue. Circadian dysrhythmia (i.e. jet lag) and other disturbances to normal sleep patterns are a part of the job. Yet, fatigue can seriously compromise the response of cabin crew in an emergency. Maximum alertness is required during the approach and landing phase, often at the end of a long duty period.

d) Personality factors. Cabin crew requires skill in handling diverse personality types. In addition, cultural diversity can influence outcomes

in an emergency, not only among the passengers, but also in culturally mixed crews.

e) Workload and stress. The pace of cabin duties varies widely, especially during long-haul operations. Learning to cope with the stress of intense workloads and boredom are fundamental to maintaining situational awareness and the mental acuity required in an emergency.

f) Competence. A function of experience and currency is vital to maximizing effectiveness. Multiple type currencies resulting in transferring from one aircraft type to another may compromise effective emergency response due to difficult and possibly inappropriate habit transfer.

g) Equipment design. During safety audits, attention should be paid to equipment design factors that may compromise safe performance of duties by cabin crew (strength requirements, reach, user- friendliness, etc.).

9.4.3 Cabin Safety Observation

a) Purpose:

1) Cabin Safety observation is to ensure the Cabin Safety Program is managed and implemented in accordance with Company standards. This is done by monitoring and periodically auditing actual flights, take into account the specific time, routes, and airports. Significant finding raised during the observation will be addressed at the SAG meeting for appropriate action taken which may affect training programs and manuals, safety and emergency equipment and procedures, cabin crew policy.

2) The observers will use the checklist in Appendix 9.4 during the audit and submit this form to Safety Department right after completing the audit.

b) Observer Qualification

The observers should not be the management personnel of cabin crew department to ensure the independence of the audit. The Cabin Safety Observers must have at least 02 years experienced in cabin operation or/and having equivalent experience in cabin safety, in training program development, design of procedures, instructional techniques and supervision. The new observer should undergo extensive formal training as well as guided on the job training and authorized by SQA Director.

9.5 MANAGEMENT OF CHANGE

9.5.1 General

[IOSA ORG 3.2.2]

Change management is an important aspect of safety management. A change management process is normally designed to ensure risk management is applied to any internal or external change that has the potential to affect BAV's established operational processes, procedures, products, equipment and services.

Whenever a change is introduced to an existing system (such as a new operational requirement or a revised maintenance process/procedure) and it is determined that the change may lead to a risk, the risk must be identified and then the change must be carefully managed in co-operation with the affected stakeholders.

Safety issue identified in management of change are risk assessed using HIRA process (SMS chapter 8).

9.5.2 Responsibilities

9.5.2.1 CEO

a) Ensures resources for implementing BAV's change management.

b) Approve change management reports and deploying.

c) Establish the change management safety action group to implement

d) assessment and managegement of changes.

9.5.2.2 ASC

a) Directs SAG to manage a change.

b) Monitor the change management of BAV through periodicly review KPI to assess the effectiveness of change management.

9.5.2.3 Safety Postholder

a) Advise the CEO and the ASC on working related to change management.

b) Adopt change management reports before submitting them to the authority for approving.

c) Ensure that BAV's change management activities maintained and

d) implemented effectively.

9.5.2.4 Safety Action Group

Carry out to manage changes according to the duties assigned by CEO and ASC in the assigned field.

9.5.2.5 Safety and Quality Assurance Division

Advises and assists ASC/CEO/ Safety Postholder on the matter regarding identity hazard, assess and mitigate risk of the change.

9.5.2.6 Other divisions and departments

a) Dissemination and transmission of changes, new hazards, safety risks level within the department or division;

b) Develop and implement measures to mitigate safety risks in accordance with approved plans and programs;

c) Assist the SAG of change management and SQA in hazard identification and develop measures of risk mitigation.

d) Coordinate with SQA to implement safety training when necessary.

e) Inform the relevant staffs about the hazards that may appear when carrying out work under the new system.

9.5.2.7 Employees involved

a) Participation in training to fully understand changes that affect safety in day-to-day operations.

b) Implement mitigation measures under the direction of the leadership.

9.5.3 Change Management Triggers

[IOSA ORG 3.2.2]

Change management procedures are to be implemented whenever any of the following triggers occur:

a) New or amended policy or procedure:

1) Introduction of a new operations policy;

2) Introduction or amendment of any ‘significant’ operational procedure;

Note: ‘Significant’ applies if the procedure might directly affect operational safety or the airworthiness of an aircraft or aircraft component.

3) Issue of a new or revised controlled document;

4) Issue of a new or revised policy instruction; and

5) Changes to the training and checking system.

b) Changes to organisation structure or responsibility:

1) Establishment of a new position in the Operations organisation structure;
2) Transfer of responsibility for an activity from one department to another;
3) Transfer of responsibility for an activity from one position to another;
4) Transfer of responsibility for an activity from one person to another;
5) Transfer of a position to a different responsible manager; and
6) Operations positions become vacant for any reason.

c) Introduction or removal of equipment from the workplace:
1) Introduction of a new aircraft type;
2) Introduction of a variant to an existing aircraft type;
3) Addition of an aircraft of an existing type;
4) Removal of an aircraft from service; and
5) Introduction or removal of new or existing equipment in an aircraft, training centre, on the ramp, in the cargo shed or in the engineering and maintenance hangar.

d) Transfer of operational responsibilities to an external service provider or contractor;

e) Schedule changes:
1) Addition or removal of an airport (station);
2) Change of aircraft type operating a set route;
3) Planned re-routing that will impact on required clearances, over- fly charges and alternate airport structure;
4) Additional flights scheduled to a location for a special event;
5) Reduction of flights to a location due to political or security issues; and
6) Change in aircraft maintenance location or schedule.

f) New or changed regulatory requirement/s;

g) Premises relocation or renovation;

h) Changes arising from a safety assessment of incident investigation; and

i) Changes in political or security situation in a country/location where flights are operated

j) Any other significant change, that is deemed to carry operational risk.

9.5.4 Change Management Process

[IOSA ORG 3.2.2]

a) The primary goal in change management is the successful implementation of change, ensuring that the change has not induced an increased risk of safety failures.

b) A methodical approach to change management ensures that the impact of the change is assessed, actively managed and controlled before implementation.

c) The change management process can be broken down into three phases:

1) Preparing for change

(i) Identify the goal of the change

(ii) Identify the stakeholders

(iii) Identify the risks

(iv) Identify the controls

(v) Select/notify the change management team

(vi) Develop an Implementation Plan

2) Managing change

(i) Inform the stakeholders of the proposed schedule for change including the implementation dates, major milestones, and follow up required to measure the success or failure of the change process

(ii) Implement the change, sticking to the Implementation Plan as much as possible

(iii) Provide training and retraining

(iv) Provide regular communication to all stakeholders

d) Monitoring change

1) Collect and analyses feedback;

2) Identify gaps and ‘lessons learned’, reinforce the change and acknowledge successes.

9.6 FLIGHT DATA MONITORING

Reference: VAR 12.075(d); IOSA ORG 3.3.13, 3.7.1, 3.7.2, 3.7.3, 3.7.4, 3.7.5, 3.7.7, 3.7.8, 3.7.9.

9.6.1 GENERAL

a) BAV shall establish and maintain a flight data analysis program as a part of its safety management system [VAR 12.075 (d)]

b) A flight data analysis program shall be non-punitive and contain adequate safeguards to protect the source(s) of the data [VAR 12.075 (d) (1)];

c) BAV may contract the operation of a flight analysis program to another party while retaining overall responsibility for the maintenance of such a program [VAR 12.075 (d)(2)];

d) BAV shall report to the CAAV monthly on the fleet operation under issued AOC [VAR 12.075 (d) (3)];

9.6.1.1 Flight Data Analysis Programmes/ Fligh Data Monitoring (FDM)

a) Flight Data Analysis (FDA) programmes, sometimes referred to as Flight Data Monitoring (FDM), or Flight Operations Quality Assurance (FOQA), provide another tool for the proactive identification of hazards.

b) They are a logical complement to the incident reporting systems and to LOSA programmes.

9.6.1.2 Definition of FDA Programme

Flight Data Analysis (FDA) Programme may be defined as a proactive and non-punitive programme [VAR 12.075 (d) (1)] for gathering and analyzing data recorded during routine flights to improve flight crew performance, operating procedures, flight training, air traffic control procedures, air navigation services, or aircraft maintenance and design.

9.6.1.3 Benefits of FDA programmes

a) Today, Flight Data Analysis (FDA) programmes are increasingly used for the monitoring and analysis of flight operations and engineering performance. FDA programmes are a logical component of a mature safety management system, particularly for larger airlines. Successful programmes encourage adherence to Standard Operating Procedures, deter non-standard behaviour and so enhance flight safety. They can detect adverse trends in any part of the flight regime and so facilitate the investigation of events other than those which have had serious consequences.

b) Flight data analysis is used to detect flight parameter exceedences and to identify non-standard or deficient procedures, weaknesses in the

ATC system, and anomalies in aircraft performance. FDA allows the monitoring of various aspects of the flight profile, such as the adherence to the prescribed take-off, climb, cruise, descent, approach and landing SOPs. Specific aspects of flight operations can be examined, either retrospectively to identify problem areas, or pro actively prior to introducing operational change and subsequently, to confirm its effectiveness.

c) While using flight recorder data during incident analysis is to be recommended, such recorded data provides the ability to compare a specific flight with the fleet profile thereby providing the ability to analyze the systemic aspects of an incident. It may be that the parameters of the incident vary only slightly from many other flights, possible indicating a requirement for change in operating technique or training. For example, it would be possible to determine whether a tailscrape on landing was an isolated event, or symptomatic of a wider mishandling problem, such as over-flaring on touchdown or improper thrust management procedures.

d) Engine monitoring programmes require the automated analysis of flight recorder data for reliable trend analysis. The value of manually coded engine data is limited in terms of accuracy, timeliness and reliability. Using flight recorder data, accurate analysis is possible within a short time, thereby increasing the potential for preventive action. It is also possible to monitor other aspects of the airframe and systems

9.6.2 CAAV REQUIREMENTS

a) Recognizing the potential for accident prevention, the CAAV-FSSD has introduced provisions for a flight data analysis programme to be part of an Bamboo Airrways's accident prevention and flight safety programme.

b) Operators of larger aircraft [VAR 12.075 (d)] authorised to conduct international commercial air transport operations will be accountable for the operation of a non-punitive FDA programme, which contains adequate safeguards to protect the source(s) of the data. Bamboo Airways may obtain the services of a specialist contractor to operate the programme [VAR 12.075 (d) (2)].

9.6.2.2 Using an FDA Programme

a) As already seen, FDA programmes offer a wide spectrum of potential applications for accident prevention, as well as improvements in operational efficiency and economy. Data aggregated from many flights may be useful to:

1) Determine operating norms for day-to-day performance;

2) Identify unsafe trends;

3) Facilitate certification of equipment and SOPs;

4) Identify operational hazards in specific operating procedures, fleets, domiciles, airports, ATC procedures, etc.;

5) Monitor the effectiveness of specific safety actions taken;

6) Support quality assurance programmes and safety audits;

7) Reduce operating and maintenance costs;

8) Optimize training procedures; and

9) Provide a performance measurement tool for risk management programmes.

b) Typically, FDA data today are being used in five areas:

1) Exceedance detection;

2) Routine measurements;

3) Incident investigations;

4) Continuing airworthiness; and

5) Linked databases (or integrated safety analysis).

9.6.2.3 Exceedance detection

a) Initially, FDA programmes may be used for detecting exceedences or safety events, such as deviations from flight manual limits, standard operating procedures, or good airmanship. A set of core events (usually provided by the FDA software vendor in consultation with the operator/ manufacturer) establishes the main areas of interest to operators. *Example: High lift-off rotation rate, stall warning, GPWS warning, flap limit speed Exceedance, fast approach, high/low on glide slope, heavy landing.*

b) FDA provides useful information from safety events which can complement that provided in crew reports. *Example: Reduced flap landing, emergency descent, engine failure, rejected take-off, go-around, TCAS or GPWS warning, system malfunctions, etc.*

c) Companies may also modify the set of core events (in accordance with the agreement with their pilots) to account for unique situations they regularly experience or the SOPs they use. *Example: To avoid nuisance reports from a non-standard SID.*

d) They may also define new events (with the agreement of the pilots) to address specific problem areas.

Example: Restrictions on the use of certain flap settings to increase component life.

e) Care must be taken that in order to avoid an Exceedance, crew do not attempt to fly the FDA profile rather than follow SOPs. Such an action can quickly turn a poor situation into something worse.

9.6.2.4 Routine measurements

a) Increasingly, data is retained from all flights, not just the ones producing significant events. A selection of measures is retained that are sufficient to characterize each flight and allow comparative analysis of a wide range of operational variabilities.

b) Trends may be identified before there are statistically significant numbers of events. Emerging trends and tendencies are monitored before the trigger levels associated with exceedences are reached.

1) *Examples of parameters monitored: take-off weight; flap setting; temperature; rotation and lift-off speeds vs. scheduled speeds; maximum pitch rate and attitude during rotation; gear retraction speeds, heights and times.*

2) *Examples of comparative analyses: pitch rates from high vs. low take-off weights; good vs. bad weather approaches; and touchdowns on short vs. long runways.*

9.6.2.5 Incident investigation

a) Recorded data provide valuable information for follow-up to mandatory reportable incidents and other technical reports. Quantifiable recorded data have been useful in adding to the impressions and information recalled by the flight crew.

b) The recorded data also provide an accurate indication of system status and performance, which may help in determining cause and effect relationships.

c) Examples of incidents where recorded data could be useful:

1) Emergencies, such as:

(i) High speed rejected take-offs;

(ii) Flight control problems;

(iii) System failures, etc.;

2) High cockpit workload conditions as corroborated by such indicators as:

(i) Late descent;

(ii) Late localizer and/or glide slope interception;

(iii) Large heading change below a specific height;

(iv) Late landing configuration;

(v) Unstabilized and rushed approaches, glide path excursions, etc.;

(vi) Exceedences of prescribed operating limitations (such as flap limit speeds, engine overtemperatures, Vspeeds, stall onset conditions, etc.; and

(vii) Wake vortex encounters, low-level wind shear, turbulence encounters or other vertical accelerations, etc.

9.6.2.6 Continuing airworthiness

a) Both routine and event data can be utilized to assist the continuing airworthiness function.

b) Traditionally, engine-monitoring programmes have looked for measures of engine performance to determine operating efficiency and predict impending failures. The engine manufacturer normally supplies these programmes.
Examples of continuing airworthiness uses: engine thrust level and airframe drag measurements; avionics and other system performance monitoring; flying control performance; brake and landing gear usage.

9.6.2.7 Integrated safety analysis

a) All the data gathered in an FDA programme should be kept in a central safety database. By linking the FDA database to other safety databases (such as incident reporting systems and technical fault reporting systems), a more complete understanding of events becomes possible through cross-referencing the various sources of information.

b) Care must be taken however, to safeguard the confidentiality of FDA data when linking it to identified data.
Example of integration: A heavy landing results in a crew report, an FDA event and an engineering report. The crew report provides the context, the FDA event the quantitative description and the engineering report the result.

c) The integration of all available sources of safety data provides the Bamboo Airways' safety management system with viable information on the overall safety health of the operation

9.6.2.8 Organization

It applies to organizations and individuals belong to Divisions concerned with flight operation safety activities:

a) SQA Division;

b) Flight Crew Division;

c) Operations Control Center

d) IT Division;

e) AMO;

f) Technical Division.

9.6.2.9 Responsibility

9.6.2.9.1 Director of SQA

Director of SQA in charge of Flight operation safety quality assurance is responsible for:

a) All Flight data analysis System activities.

b) Ensure Flight data analysis System running effectively and sufficiently including making report, building and deploying many solutions that for enhancing and monitoring flight operation safety.

c) Have responsibility to centralize in the System and establish internal procedures.

d) Administrate analysis team who are in charge for operating Flight data analysis System, and assure resources for efficient operation such as: human resource, training and equipment.

e) Have responsibility to build and maintain information security policy from Flight data analysis System.

9.6.2.9.2 SQA Division

a) Analyzing flight data daily for discovering registered events in flight operation;

b) Participating safety meetings, accident and incident investigation, based on flight data analysis reports with objective and independent analysis of Operator;

c) Making reports and general bulletins monthly, quarterly, yearly based on results of Flight data analysis and send them to related Divisions;

d) Keeping secret information related to analysis reports. Only provide information with approval from SQA'Director or BAV's top management;

e) For the validated event of level 3 (class 3), conduct of analyzing, find out the root cause and preventative action (if required). SQA Director will delegate to person who contact to pilot for clarify the circumstances, obtain feedback and give advise and recommendations for appropriate action, such as: re-training for the pilot (carried out in a positive and non-punitive way); revisions to operating and flight manuals; changes to ATC and airport operationg procedures; etc.

f) Designating manager with appropriate qualifications, authority and independence, that is responsible for:

1) The performance of the flight safety analysis program;

2) Ensuring communication and coordination with appropriate operational managers;

3) The dissemination of information to management and non-management operational personnel as appropriate to ensure an organizational awareness of relevant flight safety issues.

9.6.2.9.3 Operations Control Center

a) Support in the field of operation technique such as flight route, aircraft, flight operation documents, so on, in operating Flight data analysis System.

b) Delegate people to participate analysis team with the role of flight operation engineering and dispatch when requested by SQA Director.

9.6.2.9.4 Flight Crew Division - FCD

a) Co-ordinate with SQA Division to organize meetings to review all events and public experience to pilot base on reports from Flight data analysis System;

b) Delegate pilots role in flight operation and flight training in fact from all types of aircraft to joint analysis team when requested by SQA Director;

9.6.2.9.5 Technical Division

a) Preside to establish procedures of taking MO Disk and PCMCIA card and transfer through wireless from QAR equipment of all aircraft fleets: monitoring closely, assure QAR and DFDR that they are always in good status for getting flight data continually.

b) Receive and handle all information related to technical getting from System that effect to flight operation such as: information related to engine, fuel, and aircraft equipment's, so on.

c) Support in the field of technical for Flight data analysis System such as technical manual, aircraft equipment, and maintenance, so on.

9.6.2.9.6 AMO

a) Getting flight data directly from QAR equipment (or equivalent equipment) and send all of them to Server on time under related procedures and regulations;

b) Immediately collect and assure flight data rate at least 80% and quality of flight data in the best status from QAR equipment and send all of them to respective Server as soon as possible with safety related cases, incident and accident for investigation.

c) Assure necessary resources including human, equipment and other facilities to maintain getting flight data from all aircraft fleets fully, exactly, continually and send all of them to Flight data analysis System.

d) Notice in document form to SQA Division in case of there are problems with flight data.

9.6.2.9.7 IT:

a) Assure to maintain activity of Flight data analysis System related to Server.

b) Conduct to back up data of Flight data analysis System recurrently and has responsibility to reserve, secret keeping.

c) Support SQA to look for corrective solutions incidents in operating and using Flight data analysis System when requested.

9.6.2.9.8 Safety Pilot

a) Coordinate with SQA to work with FDA System to review and adjust the parameter of proposed limitation;

b) Reviewing/evaluating result of FDA system to validate before considering them as usable, that mean all event must be checked and reviewed the validate;

9.6.3 Flight data collection

The target of Flight data collection process that performed by collecting all of flight data generate from factual line operation, simultaneously to maintain flight data confidentially, continuously and intact from recorded by QAR or equivalent equipment, and then to be analysed.

a) Manual mode:

1) Flight data collection is implemented by AMO. Upload raw data to server to be performed weekly.

2) Flight data collected from aircraft have to be sent to SQA immediately.

3) In urgent situation, SQA Director will send request to AMO for collecting data.

b) Automatic mode:

1) Flight data collection is implemented automatically in case the aircraft equipped WQAR. Wireless flight data transferred directly to the server after aircraft landed in Vietnam

2) For aircraft using DAR flight data, flight data will be automatically transferred in to server drive after aircraft shut down its engines (within 5 minutes). However, to guarantee another flight data source to back up when the automatic flight data transferring

system faults, the using PCMCIA card on these aircrafts are still applied as the aircrafts use QAR flight data

c) AMO has responsibility to establish procedures for collecting and handing over of flight data.

d) Technical Maintenance Division presides and cooperates with AMO to ensure the adequate transmission of wireless flight data to the server.

e) IT Division has responsible to ensure the operation of server, LAN connection, an adequate and uninterrupted transmission capacity. In case of network infrastructure occurrence, IT Division shall fix actively and inform SQA

f) SQA shall monitor all flight data collection on server as well as on Airfase to ensure that collected adequately.

9.6.4 FDA PROCESS

Bamboo Airways, we commit to follow strictly FDA programme as mentioned aboved, but we are start up airlines, we will:

a) Data from aircraft is downloading and send to subcontractor for analysing, while retaining overall responsibility for the maintenance of such a program;

b) Evaluation analyzing data;

c) Step by step to set up baseline;

Meeting to discuss about non conformity and support for safety program;

Bamboo Airways will follow a closed-loop process in applying an FDA programme:

9.6.4.2 Baseline established

Initially, Bamboo Airways will establish a baseline of operational parameters against which changes can be detected and measured.
Example: Rate of unstable approaches, or hard landings.

9.6.4.3 Unusual or unsafe circumstances highlighted

The user determines when non-standard, unusual or Basically unsafe circumstances occur; by comparing them to the baseline margins of safety, the changes can be quantified.

Example: Increases in unstable approaches (or other unsafe events) at particular locations.

9.6.4.4 Unsafe trends identified

Based on the frequency of occurrence, trends are identified. Combined with an estimation of the level of severity, the risks are assessed to determine which may become unacceptable if the trend continues.

Example: A new procedure has resulted in high rates of descent that are nearly triggering GPWS warnings.

9.6.4.5 Risks mitigated

Once an unacceptable risk has been identified, appropriate risk mitigation actions are decided and implemented.
Example: Having found high rates of descent, the Standard Operating Procedures (SOPs) are changed to improve aircraft control for optimum/maximum rates of descent.

9.6.4.6 Effectiveness monitored

Once a remedial action has been put in place its effectiveness is monitored, confirming that it has reduced the identified risk and that the risk has not been transferred elsewhere.

Example: Confirm that other safety measures at the airfield with high rates of descent do not change for the worse after changes in approach procedures.

9.6.4.7 Flight data Analysis & follow-up

a) Flight data analysis Expert uses FDA software to process and evaluate quality of flight data. Invalid parameter in flight data will be check for root cause and corrected by flight data analysis Experts.

b) The Flight data analysis Expert will fill, flag all the flight as well as do flight data analysis of parameters. all red flagging flights shall be timely reviewed, determined its hazards and risks.

c) Flight data analysis Expert has to assure that all analysis information related to flights is confidential and refuse any requests for providing analysis result if without permission from SQA' Director.

d) Airfase analyses flight data continuously and automatically detects and classify events in 3 levels including

   1) Event Level 1: low impact on safety;

   2) Event Level 2: moderate impact safety;

   3) Event Level 3: possible safety impact.

e) All the events must be validated before considering them as usable.

f) The events need to be adjusted the parameter, threshold in order to comply with actual operations conditions, the request to be sent to SQA' Director for approval.

g) With mandatory investigation of accident/incident, the results of flight data analysis are one of factors to give official conclusions of accident/incident's cause in Investigation Procedure of BAV. These results need to be cross checked by concerned flight crew and experts.

h) Director SQA will review and approve the results of flight data analysis before publishing.

i) FDA data are usually compiled on a weekly basis. The data should then be reviewed by a working group: looking for specific exceedences and for emerging undesirable trends and for dissemination of information to flight crews.

j) If Level 3 deficiencies in pilot handling technique are evident, the information is de-identified in order to protect the identity of the flight crew. The information on specific exceedences is passed to gatekeeper for confidential discussion with the pilot. The gatekeeper provides the necessary information with the pilot in order to clarify the circumstances, obtain feedback, and give advice and recommendations for appropriate action, such as: retraining for the pilot (carried out in a positive and non-punitive way); revisions to operating and flight manuals; changes to ATC and airport operating procedures; etc.

k) As well as reviewing specific exceedences, all events are archived in a database. The database is used to sort, validate and display the data in easy-to-understand management reports. Over time, this archived data can provide a picture of emerging trends and hazards which would otherwise go unnoticed. Where the development of an undesirable trend becomes evident (within a fleet, or at a particular phase of flight, or airport location), the fleet's training department can implement measures to reverse the trend through modification of training exercises and/or operating procedures. Likewise, with other areas of the operation requiring action, the data can then be used to confirm the effectiveness of any action taken.

l) Lessons learned from the FDA programme may warrant inclusion in the Bamboo Airways's safety promotion programmes. However, care is required to ensure that any information acquired through FDA is studiously de-identified before using it in any training or promotional initiative.

m) As in any closed-loop process, follow-up monitoring is required to assess the effectiveness of any corrective actions taken. Flight crew feedback is essential for the identification and resolution of safety problems. For example:

1) Are the desired results being achieved soon enough;

2) Have the problems really been corrected, or just relocated to another part of the system; and

3) Have new problems been introduced.

n) All successes and failures should be recorded, comparing planned programme objectives with expected results. This provides a basis for review of the FDA programme and the foundation for future programme development

9.6.5 CONDITIONS FOR EFFECTIVE FDA PROGRAMMES

Following are several conditions that are fundamental to successful FDA programmes.

9.6.5.1 Protection of FDA data

a) Bamboo Airways' management and pilots both have legitimate concerns regarding the protection of FDA data, for example:

1) Use of data for disciplinary purposes;

2) Use of data for enforcement actions against individuals or against the company, except in cases of criminal intent or intentional disregard of safety;

3) Disclosure to the media and the general public under the provisions of State laws for access to information; and

4) Disclosure during civil litigation.

b) The integrity of FDA programmes rests upon protection of the FDA data. Any disclosure for purposes other than accident prevention can compromise the voluntary provision of FDA data, thereby compromising flight safety. Thus, the prevention of misuse of FDA data is a common interest of the State, the airlines and the pilots.

9.6.5.2 Essential trust

a) As with any successful incident reporting system, the trust established between management and its pilots is the foundation for a successful FDA programme. This trust can be built on:

1) Early participation of the pilots' association in the design, implementation and operation of the FDA programme;

2) A formal agreement between management and the pilots identifying the procedures for the use and protection of data; and

3) Data security, optimized by:

(i) Adhering to stringent agreements with the pilots' associations;

(ii) Strictly limiting data access to selected individuals within the company;

(iii) Maintaining tight control to ensure that identifying data are removed from the flight data records as soon as possible;

(iv) Ensuring that operational problems are promptly addressed by management; and

(v) Destruction of all identified data as soon as possible.

b) Access to crew identification information during follow-up should only be available to specifically authorised persons and only used for the purpose of an investigation. Subsequent to the analysis, the data enabling this identification should be destroyed.

9.6.5.3 Requisite safety culture

Consistent and competent programme management characterize successful FDA programmes.

Examples of an effective safety culture include:

a) Top management's demonstrated commitment to promoting a pro-active safety culture, championing the cooperation and accountability of all organisational levels and relevant aviation associations (pilots, cabin staff, engineers, dispatchers, etc.);

b) A non-punitive company policy. (The main objective of the FDA programme must be to identify hazards, not to identify individuals who may have committed an unsafe act.);

c) FDA programme management by a dedicated staff within the safety or operations departments with a high degree of specialization and logistical support;

d) Potential risks are identified through the correlation of the results of the analysis by persons with appropriate expertise. (For example, pilots experienced on the aircraft type being analyzed are required for the accurate diagnosis of operational hazards emerging from FDA analyses.);

e) Primary focus on monitoring fleet trends aggregated from numerous operations rather than on specific events; the identification of systemic issues adds more value for accident prevention than (perhaps isolated) events;

f) A well-structured, de-identification system to protect the confidentiality of the data; and

g) An efficient communication system for disseminating hazard information (and subsequent risk assessments) to relevant departments and outside agencies to permit timely safety action

9.6.6 IMPLEMENTING AN FDA PROGRAMME

a) Typically, within Bamboo Airways, the following steps are required to implement an FDA programme:

1) Implementation of pilot association agreements;
2) Establishment and verification of operational and security procedures;
3) Installation of equipment;
4) Selection and training of dedicated and experienced staff to operate the programme; and
5) Commencement of data analysis and validation.

b) Bearing in mind the time required to get crew/management agreements and procedures developed, a start-up airline with no FDA experience would not likely achieve an operational system in less than 12 months.

c) Another year may be required before any safety and cost benefits appear. Improvements in the analysis software, or the use of outside specialist service providers, may shorten these time frames.

d) Integrating the FDA programme with other safety monitoring systems into a coherent safety management system will increase the potential benefits. Safety information gathered from other programmes of the SMS gives context to the FDA data. In turn, FDA can provide quantitative information to support investigations that otherwise would be based on less reliable subjective reports.

9.6.6.2 Aims & objectives of an FDA programme

Define Objectives of Programme

As with any project there is a need to define the direction and objectives of the work. A phased approach is recommended so that the foundations are in place for possible subsequent expansion into other areas. Using a building block approach will allow expansion, diversification and evolution through experience.

Example: With a modular system begin by looking at basic safety related issues only. Add engine health monitoring etc. in the second phase. Ensure compatibility with other systems.

9.6.6.3 Set both short- & long-term goals

A staged set of objectives starting from the first week's replay and moving through early production reports into regular routine analysis will contribute to a sense of achievement as milestones are met:

9.6.6.3.1 Short Term

a) Establish data download procedures, test replay software and identify aircraft defects;

b) Validate and investigate Exceedance data; and

c) Establish a user-acceptable routine report format to highlight individual exceedences and facilitate the acquisition of relevant statistics.

9.6.6.3.2 **Medium Term**

a) Produce annual report - include key performance indicators;

b) Add other modules to analysis (e.g. Continuing Airworthiness); and

c) Plan for next fleet to be added to programme.

9.6.6.3.3 **Long Term**

a) Network FDA information across all company safety information systems;

b) Ensure FDA provision for any proposed advanced training programme; and

c) Use utilization and condition monitoring to reduce spares holdings. Initially, focusing on a few known areas of interest will help prove the system's effectiveness. In contrast to an undisciplined "scatter-gun" approach, a focused approach is more likely to get early successes.

9.6.6.4 The FDA team

a) Experience has shown that the "team" required to run an FDA programme could vary in size from one person with a small fleet (5 aircraft), to a dedicated section for large fleets. The descriptions below identify various functions to be fulfilled, not all of which need a dedicated position. For example, engineering may provide only part time support.

b) All FDA team members require appropriate training or experience for their respective area of data analysis. Each team member must be allocated a realistic amount of time to regularly spend on FDA tasks. With insufficient available manpower, the entire programme will underperform or even fail.

9.6.6.4.2 **Team leader.** Team leaders must earn the trust and full support of both management and flight crews. They act independently of other line management to make recommendations that will be seen by all to have a high level of integrity and impartiality. The individual requires good analytical, presentation and management skills.

9.6.6.4.3 **Flight operations interpreter**. This person normally is a current pilot (or perhaps a recently retired senior Captain or trainer), who knows the company's route network and aircraft. Their in-depth knowledge of SOPs, aircraft handling characteristics, airfields and routes will be used to place the FDA data in a credible context.

9.6.6.4.4 **Technical interpreter.** This person interprets FDA data with respect to the technical aspects of the aircraft operation. He is familiar with the powerplant,

structures and systems departments' requirements for information and any other engineering monitoring programmes in use by the airline.

9.6.6.4.5 **Aircrew representative.** This person provides the link between the fleet or training managers and flight crew involved in circumstances highlighted by FDA. The position requires good people skills and a positive attitude towards safety education. The person is normally a representative of the flight crew association and should be the only person permitted to connect the identifying data with the event. The aircrew representative requires the trust of both crewmembers and managers for their integrity and good judgment.

9.6.6.4.6 **Engineering technical support.** This person is normally an avionics specialist, involved in the supervision of mandatory serviceability requirements for FDR systems. They must be knowledgeable about FDA and the associated systems needed to run the programme.

9.6.6.4.7 **Air safety coordinator.** This person cross-references FDA information with other air safety monitoring programmes (such as the company's mandatory or confidential incident reporting programmes), creating a credible integrated context for all information. This function can reduce duplication of follow-up investigations.

9.6.6.4.8 ***Replay operative and administrator***. This person is responsible for the day-to-day running of the system, producing reports and analysis. Methodical, with some knowledge of the general operating environment, this person keeps the programme moving.

9.6.7 Safety investigation

9.6.7.1.1 Based on the preliminary report of Safety Pilot and the level classification of occurrences, SQA' Director or SQA manager will decide whether conduct an safety investigation of the occurrence analyzed or not.

a) Event Level 1: Low/Acceptable level occurrences: monitor and statistics only.

b) Event Level 2: Medium level occurrence: monitor and statistics only.

c) Event Level 3: High level Occurrence: SQA Director will decide to conduct safety investigation. SQA Director will delegate to person who contact to pilot for clarify the circumstances, obtain feedback and give advise and recommendations for appropriate action.

9.6.7.1.2 For the flight need to be investigated, SQA' Director will nominate participant and relevant personel to joint the investigation group; for the flight which have the medium risk, the investigation will be opened if the trend of those risks increased or having direction of managers.

9.6.7.1.3 After carrying out the investigation, the investigation report to submit to SQA, FCD for appropriate actions.

9.6.7.1.4 The flight crew who flew the flight having high risk level occurrence will be filed into Safety Record, which is managed by SQA Dept. if there is the

recurrent of those events within 03 months, FCD will open the investigation on those cases.

9.6.8 Safety De-Briefing

Safety De-Briefing of the occurrence compromising Flight Safety that are determined though the flight data monitor, including 02 levels:

a) Division level De-Briefing: to apply for medium safety compromising occurrence. These de-briefing hosted by FCD within its scope or by SQA Division against the flight crew flew. After completing, FCD shall be responsible for submitting a De-Briefing meeting report of result to SQA Division.

b) Company level De-Briefing: to apply for high safety compromising occurrence. These briefings hosted by SQA Division with the attendance of Company Leaders, FCD and related pilot. In some case, the high safety compromising occurrences are possibly De-Briefed as a part of content in ASC meeting.

9.6.9 Hazard Identification and Risk Management

The flight data analysis result after analysed shall be clearly determined hazards and safety risks that could impact to BAV' operation. Based on it, SAG 1 will give solutions to promptly prevent, mitigate or overcome these risks. The detail is stipulated in chapter 8 "HAZARD IDENTIFICATION & RISK ASSESSMENT" of this manual.

9.6.10 Safety reporting

a) High safety compromising occurrences report: directly report to SQA' Director to timely review.

b) Monthly report: all working tasks within the month to be reported to SQA' Director.

c) Monthly, quarterly and annually report: report to be made for monthly, quarterly and annually reports in according with SMSM.

9.6.11 Statistic and record

a) The detail is stipulated in chapter 13

b) For the accident or serious incident, the concering raw data and flight data analysis to be kept forever.

9.6.12 Using information of analyzed flight data

a) All information related to operational Safety of BAV shall be kept confidential in according to the Company regulation. Flight data will be provided to related relevant Division when only it has been approved by SQA' Director.

b) Externally using the information of flight data monitoring system (AirFase) shall only for safety briefing purpose and must be accepted by SQA' Director.

9.7 RESCUE AND FIRE FIGHTING SERVICE (RFFS)

[VAR 12.075 (e) (2)]

For aerodrome intended to operate that specified in the operational flight plan, the level of rescue and fire fighting service (RFFS) protection available at those aerodromes shall be assessed in order to ensure that an acceptable level of protection is available for the aircraft intended to be used.

CHAPTER 10 SAFETY INVESTIGATION

[IOSA ORG 2.1.5], [IOSA ORG 3.3.10]

10.1 INTRODUCTION

According to ICAO Annex 13, the sole objective of an investigation of an accident or an incident shall be the prevention of accidents and incidents. It is not the purpose of this activity to apportion blame or liability. Although the above may seem obvious, it needs to be clearly stated because this objective is sometimes overlooked in real life when other considerations are allowed to take precedence. There are often temptations to add other considerations, such as blame or liability or just preserving the present routines to this simple objective. If this occurs, the effectiveness of the investigation is compromised.

10.2 GENERAL

[Reference: ICAO Annex 13; Doc 9859 2.10; State Safety Program; Decree 75/2007/ND-CP dated 09/5/2007 of Vietnamese Government; VAR part 19; CAAV Mandatory Occurrence Reporting Scheme (issued with Decision 399/QB-CHK dated 25/02/2015)]

a) Accident and incident investigation is a specialized task, which should be undertaken by trained personnel. It is not sufficient to nominate, as the occasion arises, a person with specialist aviation knowledge; accident/incident investigation is a specialist task itself. On the other hand, it is important that the Investigator have a background in either Flight Operations or Maintenance. The Investigator must be given powers, stated in the company's regulations or procedures; these should be used with discretion. He will meet people who recognize the investigator's status, and will give him all necessary assistance. He will, however, also meet people who are less familiar with his activities and the purpose of investigations and who will not be forthcoming with information.

b) To achieve its purpose an investigation should be properly organized, carried out, coordinated and supervised by qualified personnel. When called into action, the Investigator should be prompt in attending meetings and be correct in all manners, regardless how he feels personally. He must be accurate and factual; he must observe, interpret and record clearly and accurately at all times. His record of what is seen, heard and done may well be the only record available. The analysis of this may have far-reaching effects on people, aircraft, equipment and flight safety in general.

c) Occurrences classified as Serious Incidents, with a risk rating of "Tolerable" or as decided by the SQA Director shall be the subject of an investigation.

10.3 INVESTIGATION POLICY

10.3.1 General

[Reference: VAR 12.075(c) (3)]

a) The Investigations function of SQA provides an objective and independent investigation of safety occurrences and hazards to meet the requirements of BAV, VAR 19 and applicable external regulators and authorities.

b) Although not limited to, investigations are focused on operational related occurrences and hazards. The investigation also provides an immediate investigation response to a BAV aircraft accident or incident as directed by the CEO.

c) Investigations are conducted in accordance with the spirit and intent of ICAO Annex 13 to the Convention on International Civil Aviation.

d) The Investigation section employs the participative process of 'Agreed Actions' to prevent accident/incident recurrence and/or mitigate consequence, consistent with the BAV Safety - Quality Policy.

10.3.2 BAV's Policy On Safety Investigation

[VAR Appendix 1-19.010, 19.011], [IOSA ORG 3.3.11]

a) BAV's has been developing, maintaining and operating an internal safety investigation system effectively for every occurrences and safety matters in order to identify causes, conducting safety briefings, giving recommendation and effective, appropriate corective actions, preventing the accident and incident re-occur;

b) BAV's commits to try the best in internal safety investigation. Although, following priorities on investigation are considered when making decision:

1) **Level A, B**: Accidents and serious incidents are mentioned in the Appendix I, II of CAAV Mandatory Occurrence Reporting Scheme.

2) **Level C**: Occurrences have high safety risks and BAV's is considering as one of top-ranking of safety issues in the Appendix III of CAAV Mandatory Occurrence Reporting Scheme.

3) **Level D**: Occurrences are listed in the Appendix III of CAAV Mandatory Occurrence Reporting Scheme.

4) **Level E**: other occurrences, events are listed in CAAV Mandatory Occurrence Reporting Scheme.

5) Safety events: others are related to safety issues without being classified in Level A, B, C, D, E.

10.3.3 Scope of internal investigation

The occurrences or safety concerns which happen within the scope of the SMS specified in chapter 3 of this manual are subjects of the investigation.

10.4 ORGANIZATION

a) Depending on the complexity of the investigation, it may be necessary to establish an Internal Investigation Team (IIT) consisting of an Investigator in Charge and several specialist members to cover all aspects of the investigation. Examples of specialist members are representatives from flight operations, aircraft engineering, ground operations and so on. IIT's should be established after occurrences classified as Accident, Serious Incident, and occurrences given risk category Intolerable. It has to be stressed, however, that even in small and minor incidents, the diligence and individual effort in determining the facts have to be of the same standard as of a serious incident or accident.

b) A person who is a qualified investigator normally leads the Internal Investigation Team (IIT) and is the appointed Investigator in Charge. A qualified technical QA auditor might lead investigations that are mainly technically related. For occurrences that are not complicated or serious in nature a Chief Pilot may investigate on his own. He should however be given basic education in incident investigation and analysis. He should also be given guidance by the Flight Safety department if it is deemed necessary.

c) When an Internal Investigation Team is established, the specialist members report to the Investigator in Charge during the IIT's activities. He in turn should report to the SQA Director to ensure independence from the operating units of the company.

10.5 INVESTIGATOR APPOINTMENT & QUALIFICATIONS

a) Investigators will be trained to an acceptable standard within the areas that they are authorized.

b) Investigators will be authorized by the SQA Director to carry out investigations according to their experience and formal competence.

c) The following criteria should be fulfilled before an individual is selected as a Safety Investigator:

General requirements for safety investigators:

1) Minimum 5 years experiences in commercial aviation.
2) Gaining a certificate on investigation of accidents and incidents in aviation
3) Human Factors training by an approved vendor.
4) Quality Assurance Briefing.
5) Quality auditor experience is considered an advantage.

Specialized Aviation Training

a) Flight Operation

1) Being captain, cabin purser and individual with at least 5 year experiences in aviation area.
2) Having basic training in flight operations, flight dispatch.
3) Having been trained in aviation safety and safety management system including methods for identifying hazards and potential hazards and risks during operation process.

b) Aircraft Technical and Maintenance

1) Being an aircraft engineer with 5 year experience in aircraft engineering area.
2) Clearly understanding about aircraft technical document system.
3) Having knowledge of maintenance standards, maintenance contracts and related regulations.
4) Having been trained in aviation safety and safety management system including methods for identifying hazards and potential hazards and risks during operation process.

c) Ground Operation

1) Having at least 5 year working experience in ground operation area.

2) Having been trained in specific fields such as: weight and balance, safety aprons, dangerous goods, ground equipments, etc....

d) Ethical conduct

1) Honest, impartial and objective.

2) Not being disciplined due to behavioral and ethical conduct in working duration.

3) Not receiving any gifts, privileges from the investigated departments/ division or individuals.

10.6 GUIDELINES

10.6.1 General

The primary purpose of the IIT system is to establish facts pertinent to an accident or an incident by making use of the specialist knowledge and practical experience of the participating individuals. It should also ensure that undue emphasis is not placed on any single aspect of the accident or incident to the neglect of other aspects, which may be significant.

10.6.2 Establishing the IIT

When establishing an Internal Investigation Team, the specialist members of the IIT are appointed as required by the SQA Director . The Investigator in Charge must manage the Internal Investigation Team's activities. He is responsible for distribution of tasks, time-scale of these tasks, coordination of meetings, and planning the written report.

10.6.3 Group communication

Specialist members of the IIT should be allowed to communicate with any unit for necessary technical assistance. It is essential that these activities are coordinated with the Investigator in Charge. Meetings should be held frequently during the investigation to review progress and to exchange ideas and information. Often one person may have discovered facts that are important to the other members in their part of the investigation. If meetings are impractical, other means of communication should be used i.e. e-mail, teleconferences etc.

10.6.4 Work Principles and Responsibilities

a) It is the responsibility of the investigator to review the evidence as it is developed and make decisions which will direct the extent and direction of the investigation.

b) An important keyword in the investigation principles is independence. The Organization reporting lines described above ensure that independence is maintained during the factual phase of the investigation.

c) In addition, the person(s) writing the analysis, conclusions and safety recommendations should not be directly involved in the daily running of flight, technical or other operations that are being investigated. There is no conceptual difference between Air Safety investigations and QA audits or inspections regarding this principle. The specialist members of the Internal Investigation Team are normally representing their own field of expertise: technical, operational or other. There is a clear possibility of conflict of interest in some cases when the investigation moves into analyzing the occurrence, and establishing conclusions and

recommendations. The specialist members may therefore be released from the investigation group when all facts are established and the factual part of the investigation report is completed.

d) The analysis, conclusions and recommendations parts of the report should be the responsibility of the Investigator in Charge. This places a burden on his shoulders, especially in writing the analysis part of the report. He may of course call for assistance during this process, but it is important to stress that these parts are his responsibility. He should use the combined knowledge in the SQA including Safety and Technical experts for a broad evaluation of the facts found. The analysis must be based on the factual part of the report, and be clear. The conclusions must be concise and to the point, the recommendations must be relevant and realistic.

10.7 RESPONSIBILITIES

a) Safety Postholder is head of BAV's internal safety investigation system, ensuring BAV investigation system to be established and operated effectively; being responsible for investigating occurrences Level C, D.

b) The SQA is responsible for: advising CEO/Safety Postholder on establishing and operating of BAV investigation system; presiding to conduct investigating occurences Level C, D; reporting the investigation result to Safety Postholder; in cases where it is necessary to request the Head of the divisions /department to conduct investigation for the E-level occurrence or the safety events (not being classified as MOR); mornitoring, inspecting, evaluating and accepting the investigation result of divisions /department.

c) Heads of relating division/department are responsible for participating or assigning representative to assist and support CAAV and BAV in safety investigation activities; actively investigate the incidents, safety events as well as providing the information, record, evident and investigation result to SQA Director.

d) Investigators shall carry out the accident or incident investigation when assigned.

e) BAV staff are responsible for coordinating and assisting to safety investigation.

10.8 INVESTIGATION PROCEDURE

[VAR 19.027, Appendix 1-4], [IOSA ORG 3.3.10], [IOSA ORG 3.7.8]

10.8.1 Step 1: Evaluating SR Report

The SQA Director will evaluate all SR related with error/incident and determine if an investigation is required. Detail for determination of Investigation decision and investigation team as below:

a) For the occurrences Level A & B, the investigating decision will be made and carried out by CAAV, the contents of final investigation conclusion will be implemented by BAV.

b) For C level incident, if CAAV has decided to investigate, BAV will participate as a member of the investigation team and, if necessary, conduct an independent investigation under the decision by the SQA Director .

c) For D level incident, Heads of SAGs, Heads of divisions/departments shall be responsible for investigating and reporting to ASC, the SQA Director , in case of necessity, SQA Director determine to carry out an independent investigation.

d) Level E cases, safety events will be clarified by the leaders of departments/request SQA Director to carry out an independent investigation. Level E cases, safety events will be clarified by the leaders of divisions/departments and reported to SQA Director .

10.8.2 Step 2: Data Gathering

a) The investigator will gather all relevant information from a variety of sources. This includes, but is not limited to: physical examination of the equipment used during the event, on-site investigation, maintenance records and logs; personal records/logbooks; certificates and licenses; in- house personnel and training records and work schedules; operator's manuals and SOPs; training manuals and syllabi; manufacturer's data and manuals; regulatory authority records; flight data recorders; simulations; incident databases.

b) Specialist advice will also be sought from the vendors, manufacturers, outhouse repair shops, and any relevant parties.

c) Following an accident, the Cockpit Voice Recorder (CVR) and Flight Data Recorder (FDR), if located, must be secured and retained in safe custody. In order to preserve the data and prevent erasure of recorded information, power to recorders must be off and remain off until the recorder is removed. The recovery/removal and handling of the CVR and FDR must only be assigned to qualified personnel from the CAAV or other State Investigation Authority. The appointed State Investigation

Authority shall arrange for the read-out and analysis of recorder voice and data information.

d) For safety occurrences, other than accidents as defined under ICAO Annex 13, the SQA Director is responsible for deciding which occurrence reports require the retention of FDR data or download of CVR data.

e) The Maintenance department are to be informed if additional Flight Data Recorder downloads, or Cockpit Voice Recorder read-outs are required to assist in an investigation.

10.8.3 Step 3: Interview

a) Interviews are an integral part of the data collecting phase. Interviews will be conducted with individuals directly or indirectly involved in the maintenance activity. These can provide a principal source of information for the investigation. In the absence of measurable data, interviews may be the only source of information.

b) Interviews are confidential and are conducted as soon as practicable after the incident has occurred. Each interview is documented in the form of interview statements, signed and acknowledged by the interviewee.

10.8.4 Step 4: Analysis

a) The available data is reviewed and evaluated. Once the (actual or potential) human errors/violations have been identified, considering their causes helps to identify effective intervention measures.

b) The analysis phase is rarely easy. Safety investigations require analysis of complex sets of data, and situations where the available data can be vague, incomplete and misleading. There are no detailed, prescriptive rules that can be applied in all situations and provide guaranteed success, and analysis activities ultimately rely on the judgment of safety investigators.

10.8.5 Step 5: Findings And Recommendations

a) A report, presenting the findings of the investigation, will be prepared. Based on the identified contributing factors, corrective actions and recommendations are proposed to the operations department for implementation.

b) The report is stored and retained electronically by SQA (It is also acceptable to keep all reports in hard copies format). This will facilitate ease of retrieval and allow for the analysis of trends in the types maintenance induced errors, and its concomitant contributing factors. Any significant abnormal trend would warrant appropriate investigation into potential hazards or risks associated with such deviation.

10.8.6 Step 6: Risk Assessment And Management

a) Based on the incident findings, the investigator, together with the Safety Coordinators from the operations department will assess the potential hazards that have not been previously uncovered. These hazards will be ranked in order of their risk potential.

b) Through such a risk assessment process, a determination can be made as to whether the risk is being appropriately managed or controlled. If the risks are acceptable, the operation may continue. If the risks were unacceptable, then steps would be taken to increase the defenses or to remove or avoid the hazard.

10.9 SAFETY INVESTIGATION REPORTS

10.9.1 Format

The report shall be in accordance with the ICAO Annex 13 format with the following sections:

a) Synopsis;

b) Factual Information;

c) Analysis;

d) Recommendations.

10.9.2 Report distribution

a) The factual part of the report is given to the pilots or engineers involved in the occurrence, they have the opportunity to propose corrections to the factual part before the report is finalized and given to the company's management. The Investigator in Charge shall discuss the contents of the report with the SQA Director before it is released to ensure a uniform practice and standard among all investigators.

b) The report should therefore be issued by the office of SQA Director. In this way, reports with the required standard, integrity and independence from the operations, technical and other divisions are ensured. As investigation reports very often have aspects covering technical and other areas as well as operational, the report should be given to the CEO and the SQA Director for evaluation and further actions. If desired, they may distribute the report to other interested parties for comments before further actions are decided. It will be the Board of Management responsibility to evaluate findings and recommendations, and to distribute tasks related to prevention of future accidents and incidents to the individual Postholder s in the company. The SQA Director shall monitor the implementation of the accepted recommendations.

CHAPTER 11 SAFETY TRAINING AND PROMOTION

[IOSA ORG 2.1.5]

11.1 SMS TRAINING

[Reference: VAR1 1.185 Appendix 5; AC 01-003 6.1; 6.2; Doc 9859 5.3.86; 5.3.93; IOSA ORG 1.6.5]

11.1.1 General

The SQA Director and all Postholder s will review and provide staff the appropriate training relevant to their responsibilities. This is for ensuring that the personnel are appropriately trained and competent to perform their SMS duties:

a) BAV Safety Policy and Safety Commitment;

b) Safety goals and Objectives;

c) Safety Accountabilities and Key personnel;

d) Non-punitive reporting policy;

e) Safety reporting;

f) Hazard Identification and Risk Assessment;

g) Safety Performance Monitoring and Measurement;

h) Safety investigation;

i) Management of Change;

j) Emergency Response Plan.

k) Audit principles and methodology;

l) Communication techniques;

m) Emergency response preparedness.

11.1.2 Types of SMS Training

[IOSA ORG 1.6.6]

BAV's personnel or service providers (if the BAV outsources operational functions to service providers) are trained to understand SMS responsibilities and perform associated duties.

a) All Employees and service providers

All employees and service providers should be provided with safety awareness training. This training is designed to promote awareness of the Company's SMS and is intended as a one off course with recurrence every 36 months. A key component of the training is the role that all staff works in the identification and reduction of hazards, Human Factors and the basic principles of safety management.

b) Safety Critical Personnel

Safety Critical Personnel are provided with SMS Awareness training on an annual re-current basis. These people are identified by the relevant Division Director in cooperation with the SQA Director . Their training plan shall be reviewed regularly to ensure that opportunities for continuous improvement are identified and acted.

c) Managers & Executives:

1) Managers & Executives training is provided to ensure specific awareness of their obligations under the Safety Management System.

2) This includes familiarity with:

(i) The principles of SMS;

(ii) Risk management process;

(iii) Their responsibilities and accountabilities for safety;

(iv) Their legal liabilities.

d) Crisis Management

On induction to a role that participates in the execution of the Crisis Management Plan, personnel shall be provided with specific training designed for their role within the Crisis Management Plan. Recurrent training is provided every 36 months or when exercise results indicate a need. Any member of the Crisis Management Team may request Crisis Management training at any time.

e) Safety Specialists:

1) Safety Specialists are provided with training appropriate to their function.

2) Further training includes:

(i) Safety audit;

(ii) Lead auditor;

(iii) Safety investigation;

(iv) Lead investigator;

(v) Risk assessment.

11.1.3 SMS Training for staff

SMS training for Bamboo Airways' staff is designed for jobs category and is divided into 03 following modules:

a) SMS 1: (04 hours)

1) BAV' safety policy

2) Introduction to SMS includes the concept of hazards, consequences and risks, risk management process
3) Safety responsibility, accountability and authority of different positions within the company in relation to SMS
4) Safety reporting and safety reporting system of Bamboo Airways

b) SMS 2: (01 day)

1) BAV' safety policy
2) Introduction to SMS includes the concept of hazards, consequences and risks, risk management process
3) Safety responsibility, accountability and authority of different positions within the company in relation to SMS
4) Safety reporting and safety reporting system of Bamboo Airways
5) Safety responsibility of managers in promoting the SMS and engaging operational personnel in hazard reporting;
6) Knowledge of safety processes, HIRA and management of changes;
7) Safety data analysis;

c) SMS 3: (02 days)

1) BAV' safety policy
2) Introduction to SMS includes the concept of hazards, consequences and risks, risk management process
3) Safety responsibility, accountability and authority of different positions within the company in relation to SMS
4) Safety reporting and safety reporting system of Bamboo Airways
5) Safety responsibility of managers in promoting the SMS and engaging operational personnel in hazard reporting;
6) Knowledge of safety processes, HIRA and management of changes;
7) Safety data analysis;
8) Safety assurance and safety promotion
9) Safety roles and responsibilities
10) Acceptable Level of Safety indicators

d) SMS 4 (04 hours)

1) General awareness of the organization's SMS, including SMS roles and responsibilities, safety policy and objectives, safety risk management and safety assurance.

2) Knowledge of CAAV SMS regulations

Training programs with equivalent syllabus of other competent organizations shall be accepted by Bamboo Airways.

No.	Module	Trainee Groups					Remarks
		CEO and Vice CEO	Safety Manager/ Safety Expert/equivalent are responsible for SMS	Safety Postholder/ Director and Deputy Director of SQA	Managers or supervisor	Executive, Captain, FO, Technical Staff, Ground Staff	
1	SMS 1					X	*Class training / Read and Signs/ Distance learning*
2	SMS 2				X		*Class training/ Distance learning*
3	SMS 3		X	X			*Class training/ Distance learning*
4	SMS 4	X					*Class training/ Distance learning*

Table 11-1 Summarizes SMS training requirements for Bamboo Airways staff

Note: *Syllabus of recurrent training for a group is also based on the initial training specified above, but focus on changes to SMS policies, processes and procedures as well as any specific safety issues relevant to the organization.*

11.1.4 Methods of safety training

Safety training can be conducted by the following methods:

a) On class;

b) Read and Signs;

c) Distance learning.

After training on safety in the above forms, all employees must perform the test with a minimum passing score of 75%.

SMS training is periodically conducted by BAV within 36 months. Employees must be assured of the dissemination of new knowledge, changes in SMS (if any) in a timely manner.

11.1.5 Responsibility on SMS training for BAV' staff

a) Safety Postholder has responsibility:

1) Approve safety training policy in compliance with CAAV and related requirements;

2) Ensure the availability of all power sources to the implementation of the approved policy and safety training programs of Bamboo Airways;

3) Monitor the effectivity and effectiveness of Bamboo Airways safety and SMS training programs.

b) Director of Training Center has responsibility:

1) Organize safety training policy development for all Bamboo Airways staff.

2) Coordinate with service providers providing training service for Bamboo Airways to develop safety training program and syllabuses suitable for Bamboo Airways.

3) Coordinate with other departments, organizations within Bamboo Airways to develop and get approval of annual training plan – that include safety training plan and SMS training.

c) Director of SQA Division has responsibility:

1) Coordinate with Training department Director to periodically review safety training and SMS training policy for Bamboo Airways staff.

2) Review and audit regularly contents of BAV safety training program, syllabus through safety quality audit.

d) Heads of other divisions/departments of Bamboo Airways have responsibility:

1) Assure that all staff of their departments/divisions receive safety training and have suitable safety knowledge to fulfill the job.

2) Promote safety and SMS actively and be responsible for development of a right safety culture within their departments/divisions

11.2 SAFETY COMMUNICATION

[IOSA ORG 1.4.1], [IOSA ORG 3.2.1A]

11.2.1 Safety Information

Safety information is passing from Bamboo Airways to external organizations, within departments/divisions of Bamboo Airways, from top management to staff and in return through the following means and media:

a) Meeting conclusion of ASC, SAGs, seminars and conferences;

b) New changes or promulgation in safety regulations and Safety procedures, rules;

c) Safety reviews, investigation conclusion and meetings;

d) Safety objectives and indicators

e) Other safety information

11.2.2 Safety Communication

BAV strives to have an effective communication system that ensures an exchange of relevant operational information throughout all areas of the organization; this includes senior managers, operational managers and front line personnel. The most common communication method used by BAV personnel is the email system that allows the exchange of information internally and externally from the base office of the user. To be totally effective, the communication system also includes external organizations that conduct outsourced operational functions.

Safety information is transmitted to external and internal agencies and conveyed from the top management to employees at all levels and vice versa through following means:

a) Manual, documentation systems;

b) Email system;

c) Safety procedures and regulations system;

d) Safety meetings;

e) Through phone, fax, mobile phone messages;

f) Aviation special communication networks or company e-mail system;

g) Bamboo Airways safety reporting system;

h) Safety bulletins, internal promotion media of Bamboo Airways.

11.2.2.2 Marketing Division

a) The Marketing Division is responsible for investor relations, public relations, advertising and promotions, and customer response. BAV's Public Relations Officer is responsible for all external media releases relating to the company and for the control of all corporate internal communications.

b) Media Policy:

1) There are certain procedures to be followed when dealing with the press and the public on matters concerning the company. In view of the legal implications including the attachment of liabilities, employees and contractors should refrain from revealing information to anyone especially when an aircraft incident or accident is the subject of an official enquiry. All enquiries should be referred to the Managing Director's office.

2) The Managing Director's office will ensure only the facts of the incident or accident are provided and not speculations regarding causes, defects, inefficiency or negligence of Company personnel.

11.2.2.3 Management Communications

[IOSA ORG 1.4.2]

Management communications are series of common methods used by BAV senior management to communicate safety, quality, security and administration matters to staff, contractors and external service providers.

a) Flight Operations

Flight Operations prepare and distribute the following communications to flight crew, flight dispatch and flight operations departmental staff:

1) Notice to Pilot: safety and operational related information that must be communicated to flight crew with the minimum of delay; and

2) Memo to Crew: safety and operational related information that must be communicated to flight crew with the minimum of delay.

b) Safety & Quality Assurance Division

[IOSA ORG 3.3.2]

The SQA disseminates relevant safety information to all relevant personnel across BAV operational areas network. These documents are all issued electronically.

1) Safety Alert

   (i) The purpose of the Safety Alert is to improve safety through immediate dissemination of information and action on critical and urgent issues that can affect the company's operational safety. Safety Alerts may be distributed to different operating departments.

   (ii) The information is gathered from operational, technical or ground incident reports, Flight Data Monitoring events or from other internal and external sources.

   (iii) Safety Alert is an internal document issued whenever it is deemed necessary by the SQA Director .

2) Safety Bulletin

   (i) General safety information documents, advising of SMS activities, audit results, safety procedure reminders, safety promotion campaign information.

   (ii) Information from external sources may be included in the document.

   (iii) The SQA Director will review and approve before distributing Safety Bulletin.

   (iv) Safety Bulletin is an internal document that is distributed to all employees quarterly.

3) Safety News

A bi-annual newsletter that talks about safety and quality activities, achievements, industry events, internal incidents, external accident reports/findings, Data trends, etc.

4) Flight Data Monitoring Report:

   (i) The purpose of the FDM report is to publish status, trends and other information relating to Flight Data Monitoring in BAV.

   (ii) It is issued quarterly by the Safety Department and it is targeted at flight crew and Company management. The publication is for internal use only and information therein is not to be distributed outside the company except as approved by the VP SQA.

5) Quality Assurance Directive

Communicates changes in policies and procedures that affect quality, quality assurance issues at domestic and international stations, enhancement measures and general quality assurance matters.

6) Quality Notice

Safety and maintenance related information issued by Technical Quality Assurance and must be communicated to mechanics and Technical Department with the minimum of delay.

c) Technical & Maintenance and Ground Operations (ground staff)

Safety and operational related information that must be communicated to the ground staff with minimum of delay; such as ramp and passenger handling concerns, reminders and safety related information.

CHAPTER 12 SMS CONTINUOUS IMPROVEMENT

12.1 SMS CONTINUOUS IMPROVEMENT

Reference documents:

a) VAR 12.075 (a)(3)(4)

b) AC-01-003 5.3, includes Appendix B

c) Doc 9859 5.3.78-5.3.82

d) IOSA ORG 1.2.2, IOSA ORG 1.5.2

12.1.1 Introduction to SMS continuous improvement.

Under regulation, the service provider shall monitor and assess the effectiveness of its SMS processess to enable continuous improvement of the overall performance of the SMS. Thus, continuous improvement activity is one element of SMS. BAV SMS continuous improvement is achieved through the following 02 main processes:

a) Internal SMS Audit

b) Safety reviews.

12.1.2 Internal SMS Audit.

BAV conduct internal SMS Audit to ensure that the structure of BAV's SMS is sound. It is also a formal process to ensure continuous improvement and effectiveness of SMS.

BAV internal SMS audit program is integrated to its quality assuarance program and the integrated program is named "Safety – Quality audit program. Details of this program such as: , auditor approval process, methodology, procedures, checklist... is addressed in the BAV's.

The overall scope of SMS audit include:

a) Regulatory SMS requirement

b) Structure of safety accountabilities

c) Organizational safety policies and standards

d) Documentation, including SMS manual and SMS records

e) Review performance of safety report and investigation

f) Compliance with SMS hazard and risk evaluation procedures

g) Adequacy of staff training for their SMS roles

h) Performance indicators and Acceptable Level of Safety

i) Effective SMS intergration with other control systems

j) SMS intergration with contractors where applicable

k) Compliance with safety assessment plan or schedule

l) Assessments the implementation and compliance the safety management requirements of BAV's provider

m) Continuing assessments and management of change

n) Review completed safety assessments for any that may be obviuosly substandard orinadequate.

12.1.3 Safety Review

Over and above internal SMS audit, safety reviews or surveys may be employed as a proactive procedure for examining particular elements, processes or specific operation for any safety concerns or sub-standard performance.

Such targeted safety surveys may be initiated as a follow up to informal feedback or voluntary and confidential reports to indentify issues that may contribute to generation of hazard and risks or their escalation factors, such as:

a) Problem areas or bottkenecks in daily operations

b) Perceptions and opinions about personnel's competency with possible safety implications

c) Poor Teamwork and cooperation between employee groups or departments (especially involving safety/operational/technical functions)

d) Areas of dissent or perceived confusion (especially involving safety/operational/technical functions)

e) Unsafe working procedures or conditions

f) Prolonged working hours or long-term manpower shortfall, etc…

12.1.4 SMS continuous improvement process

BAV improve continuously (not only SMS) through requests for improvement which are identified through:

a) Safety – Quality audit program

b) Requests from BAV (new requirements of aviation authorities, from competitors,... and/or Internal requests under safety review results). SMS continuous improvement is also an importance part of the above mentioned continuous improvement of the whole company. Improvements, changes of SMS shall be implemented by BAV appropriately depend on the results of identification of the needs for improvements and changes process.

Depending on the level of improvement and change, the improvement/change management process shall contain the following steps:

c) Identification of SMS improvement possibility or change request (from audit recommendations and findings, external request for changes, or internal needs for changes, improvement);

d) Define the scope of SMS improvement, change: Manual, documentation, procedure revision; training for staff; investment of new technology...

e) Risk identification, evaluation and mitigation;

f) Proposal of the most suitable method and plan for change, improvement;

g) Implementation of the approved plan. Depend on the importance and scope of the plan a SAG may be established with the involvement of related departments/divisions;

h) Evaluation of the project.

Note: *For the implementation corrective and preventive actions as a request of an safety audit, heads of related departments and organisations must carry out the root cause analysis and choose the most effective plan.* System improvement through activities of QMS: Optimisation of working processes; Implementation of safety corrective preventive actions or improvement plans in timely manner is also considered SMS improvement. Refer to QM Chapter 3 on Safety - Quality Assurance Program.

12.1.5 SMS continuous improvement procedure.

12.1.5.1 Objective.

SMS continuous improvement is a main element of safety assuarance activities in SMS. Thus, BAV shall review and implement SMS continuous improvement process systematically to ensure maintaining effectiveness and effeciency of SMS.

12.1.5.2 Scope.

This process is applied for all Department/Division within BAV's SMS.

12.1.5.3 Participants and Responsibility.

a) CEO is responsible for effectiveness and effeciency of SMS continuous improvement process.

b) ASC is responsible for reviewing, giving directions and approving continuous improvement measure.

c) SAGs review and submit continuous improvement measure for Board of authoritative management for approving.

d) SQA implement internal safety audit; assess safety review reports from other Departments/Divisions; conduct safety review (if any); analyse root cause and propose continuous improvement measures.

e) Departments/Divisions within BAV's SMS are responsible for implementing safety review process and follow this procedure.

12.1.5.4 Procedure.

SMS continuous improvement process is carried out following steps below:

a) Step 1:

1) SQA implement internal safety audit base on approved annual audit plan.

2) Departments/Divisions within BAV's SMS carry out safety review (if any) in daily operations such as: Flight/Technical/ground handling/cargo operations…. (through feedback from empployee, confidential/optional report, issues are raised from operation supervision) and send to SQA under monthly safety reports.

b) Step 2: SQA carry out:

1) Analyse: SMS internal audit results, safety review report from Departments/Divisions.

2) Identify issues and root causes.

3) Identify improvement activities, then determine improvement scope (include: Policy, document system, Technology/facilities, training, service provider changing, environmental improvement, adjust safety performance indicators….

4) Evaluate improvement measure and safety risk mitigation solution base on: safety,effectiveness, practicality, cost/benefit.

c) Step 3: Submit and approve improvement solution (scope, measure, plan…)

1) Depend on each area (Flight/technical/ground/cargo..) and improvement scope, SQA submit improvement solution to SAGs or ASC.

2) SAGs and/or ASC review improvement solution then submit Board of authoritative management for approving.

d) Step 4: Implement approved SMS improvement solution.

1) All related Departments/Divisions within BAV are resposible for implementation of approved solution and report progress to ASC/SAGs/SQA.

2) For huge improvement program, SQA will coordinate with related Departments/Divisions to adjust program ensure the solution is suitble and effective. The adjusted programe shall be submit Board of authoritative management for approving.

3) SQA follow and assess SMS improvement progress through reports of related Departments/Divisions. Besides, SQA shall monitor and measure BAV's safety performance indicators for evaluating of effectivenes of SMS improvement solution and report SAGs and/or ASC.

12.1.5.5 Records:

a) SMS continuous improvement records include:

1) Analysis report of SMS internal audit results, safety review results.

2) Report of improvement identification, include: scope, measures and plan of improvement process.

3) The records concern implemetation, following and assessing effeciency of SMS improvement.

b) All above records be retained for the period of 3 years at SQA.

CHAPTER 13 SAFETY DATA & RECORD MANAGEMENT

[IOSA ORG 2.1.5]

13.1 SMS DATA AND RECORDS MANAGEMENT

Reference documents:

ICAO Annex 19 - Safety Management;

ICAO Doc.9859 - Safety Management Manual Ed.3 (from 3.5.74 to 3.5.77);

VAR 12 075 - Safety Management System;

AC-01-003 - Development of Acceptable Safety Management Systems;

IOSA ORG 3.7.8.

13.1.1 Introduction

The purpose of this chapter is to describe the data and records management process of BAV's safety management system compliance with law, standards and recommended practices of the International Civil Aviation Organization (ICAO), Civil Aviation Administration of Vietnam (CAAV), other Aviation Authorities and International Air Transport Association (IATA).

13.1.2 Documents and records required to be stored and managed include:

a) Incident / Accident reports;

b) Incident / Accident investigation reports;

c) Safety and Quality audit reports;

d) Periodic analyses of safety trends / indicators;

e) Minutes of ASC, SAGs meeting, working;

f) Hazard reports and risk management documentation.

g) SMS training records and manual;

h) Safety Bulletin;

i) Records of SMS improvements and changes;

j) Records of safety survey;

k) Records of Flight data analysis

Individual operational divisions are required to have a records system that ensures the generation and retention of all records necessary to document and support the SMS related to their areas.

13.1.3 Document storage and records

[IOSA ORG 3.3.5]

Principles of document, records and safety data storage has been stated in BAV's Quality Manual.

a) Safety data and records are retained in different divisions, departments of BAV.

b) Safety records and data are archived in both hardcopy and digital forms.

13.1.4 Statement of confidentiality

BAV commits to use all power to keep information confidential in all necessary cases in order to keep the information sources safe and to maintain its non-punitive safety policy that include:

13.1.4.1 For flight data – [VAR 12.075(d)(1)]

a) Confidentiality: the identity of individual crewmembers cannot be associated with any FDM data, except for the purposes of crew contact when an investigation is deemed necessary;

b) Anonymity: any identification of airline flight and/or flight crews with specific FDM flight data necessary during an analysis is eliminated permanently at the earliest possible time;

c) Data access and control: SQA is responsible for data protection. In addition, data access and control guarantees the protection of data; only authorized personnel of the SQA has access to the data. The data processing and storage locations are subject to protection.

d) Facilities: the access to facilities for all systems, offices, equipment, workstations, computers, and peripherals associated with the FDM program is controlled.

13.1.4.2 For personal information of a confidential report

a) Confidential reports are received and processed by SQA follow a separate procedure to keep all personal information of the confidential report sources hidden before safety information can be passed to a normal processing procedures;

b) SQA Director or authorized person who handle the report has the responsibility to keep name and all personnel information of the report source confidential;

c) The reporter shall be informed by SQA about processing results as soon as posible;

d) BAV prohibit disclosure of name and personnel information of the confidential reporting sources. Violation of this policy shall be subjected to BAV internal punishment procedures and rules.

13.1.4.3 For information of occurrence and safety investigations

a) Information of occurrence and safety investigations or parts of them are only disclosed to the related parties upon approval of BAV authorized persons.

b) Violation of this policy shall be subject to BAV internal punishment procedures and rules.

13.1.4.4 Retention period of safety records, documentation and data

No	Safety documents, data, records	Place of retention	Period of retention	Remarks
1	Safety policy	SQA	05 years	
2	Safety reports	SQA; Related Division/Dept.	05 years	
3	Internal, external and third parties audit records, reports (include in-flight audit of flight and cabin crews)	SQA; Related Division/Dept.	05 years	*In-flight audit records are retained in LOSA database*
4	Records of HIRA, risk management, management of change, FRMS	SQA; Related Division/Dept.	05 years	
5	Records of safety's KPI	SQA; Related Division/Dept.	05 years	
6	Records of occurrence & safety investigations, safety dissemination sessions	SQA; Related Division/Dept.	10 years	
7	Records of working sessions of ASC, SAG	SQA; Related Division/Dept.	10 years	
8	Records of safety and SMS training	SQA; Related Division/Dept.	01 years after staff stops working at BAV	
9	Safety Bulletin	SQA; Related Division/Dept.	05 years	
10	Records of SMS improvements and changes	SQA; Related Division/Dept.	05 years	
11	Records of safety survey	SQA; Related Division/Dept.	05 years	
12	Records of safety analysis	SQA; Related Division/Dept.	5 years	
	Flight data	SQA; Related Division/Dept.	Raw data: 5 years; Statistical data: Forever	*Server*

CHAPTER 14 EMERGENCY RESPONSE PLAN

[IOSA ORG 2.1.5]

14.1 PURPOSE OF THE ERP

14.1.1 Everyone within the organization must be able to recognize when to activate this Emergency Response Plan (ERP) and must read and understand the contents of the ERP.

14.1.2 This Emergency Response Plan (ERP) forms part of SMS. Normally, most occurrences which affect the organization are dealt with by individuals as part of their normal duties. However, occurrences such as a major accident or a major security situation will require the coordinated efforts of management and staff and, in certain circumstances, assistance from outside organizations. In these cases this ERP shall be used as the basis for coordinated action.

14.1.3 This ERP has been developed for the following reasons:

a) Prompt and coordinated action by the organization can alleviate some of the suffering caused by an emergency

b) Without an effective response, the emergency can increase the business effects far out of proportion to scale of the original emergency. A good plan allocates appropriate resources to manage the emergency and still allows business to continue.

c) Passengers and customers expect the organization to have a satisfactory emergency response capability. Poor handling of an emergency will become a second crisis for the organization thereby compounding the damage already incurred. Poor emergency handling is often used as evidence that the management of an organization was incompetent or that the organization did not really care for its customers.

14.1.4 An active safety management program must be the first line of defence against any organizational emergency. The definition of an emergency is varied and vast and not limited to fatalities. It is always easier to stand down from the plan than to activate it when it is too late.

14.1.5 An emergency can be any one of the following, but is not limited to:

a) Death / Serious Injury (imminent or onboard);

b) Aircraft has suffered serious damage;

c) Fire;

d) Mechanical failure Eg: Engine failure or major mechanical/system failure;

e) Malfunction of an aircraft system. Eg: Gear system failure in amphibious aircraft;

f) Flight crew incapacitation;

g) Low fuel/starvation;

h) Contamination / Dangerous Goods;

i) Security incident / Hijacking;

j) Rogue passenger;

k) Food poisoning;

l) Bomb Threat.

14.2 ERP ORGANIZATION

The Company ERP organization is as follows:

14.2.1 Resources

a) Use of the ERP will rely almost exclusively on the organization's human and material resources.

b) In certain circumstances, the organization may request assistance from other parties. The level of assistance requested will depend on the magnitude of the emergency. However, in the final analysis, it is the organization's responsibility to establish a sound communications link with the public and to manage the emergency.

c) The CEO shall ensure all BAV staff are trained to carry out the duties detailed in this ERP. All staff are responsible for ensuring they are fully aware of the contents of this ERP.

14.2.2 Activation of The Organizational ERP

a) Emergencies that exceed normal management capacity may be sudden, such as an aircraft crash, or may gradually emerge from what appeared to be a routine problem (eg a DG contamination problem). During emerging crises there is often a reluctance to admit that control has been lost and additional resources are required. On the other hand, sudden emergencies can hit with a psychological impact that paralyses unprepared managers and staff.

b) Aviation emergencies tend to be of the sudden category and have the following characteristics:

1) Surprise - the event is unexpected. The emergency can lead to shock or paralysis if a definite activation process has not been developed;

2) Threat - the event can fundamentally threaten the organization's future. Decision making with such significant consequences places extreme stress on managers. The use of teams to manage the emergency can minimize these effects;

3) Information - information about the emergency is often unavailable, contradictory or inaccurate. The combination of stress with increased volume of information requires a formal recording system that allows assessment of the situation. The information should be built into a visual display to allow decision makers to absorb its significance;

4) Decisions - during emergencies only a few, but very important, decisions are made. These decisions must often be considered before reliable information is available thereby placing managers under considerable strain;

5) Public Scrutiny - Public and media scrutiny during emergencies will be immediate. The organization must act in a responsible manner, but its responsible behavior needs to be visible to the public and the media.. Communication with the media must be quick and open with the aim of becoming the best source of information about the emergency. The need to deal with the media whilst simultaneously managing the emergency increases the pressures on the organization.

c) This plan will be activated if passengers or staff are threatened with serious injury (aircraft accidents, hijack, bombs, terminal fires, natural disasters) or incidents that affect the whole airline (sudden supply or other network affects) or events that may draw extended media scrutiny (food poisoning, aircraft trapped for extended periods) In general, this plan should be activated early, and if necessary stood down, rather than activated late.

14.2.3 When to Activate

The Emergency Response Plan (ERP) must be activated when Local Standby, Full Emergency or Crash has been declared. The ERP may also be activated when appropriate in other situations in which the welfare of passengers, crew or other staff may be compromised.

14.2.4 Local Standby

Local Standby is a situation in which activation of only Company or airport Based agencies involved in the Aerodrome Emergency Plan of the aerodrome is warranted. A local standby is declared when an aircraft is known or is suspected to have developed problem(s) but the problem(s) is not such that would normally be expected to involve any serious difficulty in completing the mission safely and thus NOT requiring full Emergency response.

14.2.5 Declaration of Local Standby

a) A pilot, any Operational Company officer or the Air Traffic Service (ATS) may call for Local Standby. Pilots might not use this terminology to declare the potential problem, and may use the term 'pan, pan, pan' although not all “Pan” calls require a local standby. Operations Controller may also request a local standby when he/she feels the

situation warrants it but a local standby has not been called by the ATS or the pilots.

b) When a local standby is requested by a pilot to ATS or by ATS, the pilot might not contact the organization directly; this notification may come from ATS. The organization's Local Standby should be activated.

14.2.6 Actions to be taken

The Standby Checklist must be activated if a Local Standby is called.

14.3 FULL EMERGENCY

Full Emergency is a condition declared when it is known that an aircraft is suspected to be or is in such difficulty that there is danger of an accident requiring full Emergency Response.

14.3.1 Declaration

If a pilot declares a ‘Mayday’ or ‘Emergency’, The Company or Air Traffic Services (ATS) will activate a response by declaring a Full Emergency.

14.3.2 Declaration of Full Emergency

When a 'Mayday' or 'Emergency' is declared by a pilot to Air Traffic Services and therefore a full emergency is activated, the pilot is unlikely to contact the organization directly; this notification is most likely to come from Air Traffic Services.

14.3.3 Actions to be taken

Once notification has been received, Full Emergency Checklist must be activated immediately.

14.4 CRASH

Crash is declared if an aircraft operated by the organization crashes.

14.4.1 Declaration

Crash may be observed directly or declared by the Air Traffic Services, however, the organization may receive the information from a variety of sources.

14.4.2 Actions to be taken

a) Once notification has been received, Full Emergency Checklist must be activated immediately. During an emergency, other operations of the organization will continue in consultation with the CEO and the Chief Pilot.

b) Assistance should be obtained by the Operations Control Centre that is dealing with the Emergency, so that they can assist the CEO / COO, for the handling of all other operations of the organization.

c) During an emergency, arrangements must be made to achieve the following two priorities:

1) Information: Information must be streamlined to the BAV Head Office so that the important decisions can be correctly made.

2) Communication: The Company should be prepared to respond to media & public enquiries within 30 minutes Until such time the Company standard response (subject to the severity of the event) will be “No comment will be made until The Company has had the opportunity to undertake action to address the immediate safety of the aircraft & persons involved”.

14.5 EMERGENCY RESPONSE PLAN FUNCTIONS

The ERP is based on achieving the following functions.

14.5.1 Activation:

The plan should be initiated by using the call out list. Normally, a quick assessment is made to confirm that the plan should be activated. During working hours, the plan should be activated within 15 minutes of the original call.

14.5.2 Control:

The Operations Control Centre (OCC) is formed with selected management and staff.

14.5.3

The purpose of the OCC:

a) Control the organization's response to the emergency including resources and other ongoing business;

b) Conduct mandatory reporting to organizations such as CAAV;

c) Inform staff of the emergency;

d) Inform the media of the emergency.

14.5.4 Co-ordination:

A direct link with personnel at the emergency site (e.g. Airport staff, Police, Staff or Agent) via an open telephone line should be established with continuous communication. If the emergency is lengthy, consideration may be given to sending a team or individual to the site to establish communication with the OCC.

14.5.5 Communication:

From the outset, it is important for the organization to show an open attitude and to avoid adopting a siege mentality. Refusal to communicate unless all information is known or withdrawing at the first sign of hostility from the media will simply allow other often unqualified personnel to speak instead of the organization. This must be prevented at all costs.

14.5.6 Media:

a) The Company will engage the service of an experienced media (public relations) Company to advise on actions to be taken.

b) The OCC should be prepared to respond to media enquiries within the first 30 minutes of the emergency and provide a press release within 60 minutes of the emergency. If insufficient information is known these timings may be delayed. The flight origin, destination, arrival times and

contact numbers for media and public inquiries must be published quickly.

c) Liaison should be established with Emergency Service and Police media departments and arrangements made to receive their releases by fax. If the emergency has involved fatalities, advertising should be discontinued, and contact with the public should be toned down appropriately (i.e. reservations hold music, local radio/TV advertising etc).

14.5.7 Public Inquiries:

Although the organization may be heavily committed to forming a control centre and dealing with the media, some answering of public inquiries, particularly from the local area, should be attempted. The aim should be to give information to the immediate family of persons involved in the emergency (whether staff or passengers).

14.5.8 Other Stakeholders:

The CEO should contact other important stakeholders who will be interested in the emergency such as the owners.

14.5.9 Assistance:

The BAV must manage the emergency and communicate with the media. Any assistance given by any external party will avoid interfering with these key functions.

14.5.10 Warnings:

Whilst dealing with an emergency, the organization should:

a) Liability. Not admit liability.

b) Causes. Not give an opinion on the probable cause of an accident, OR lay blame any other party.

c) Documentation. Control all documentation regarding the emergency. Documents demanded by authorities must be receipted and copies retained.

14.6 EXTERNAL AGENCY INTERFACE (FOR EXAMPLE, AERODROME ERP, CAAV, CORONER)

14.6.1 Approximately 80% of emergencies will occur at or near a departure/destination point. Airport operators are required to produce an Airport Emergency Plan that details the actions required in the event of a major accident or security incident.

14.6.2 The major responsibility of BAV and its handling agents is to provide assistance to passengers should the accident/incident take place off airport or once passengers reach a terminal point.

14.6.3 Airport Emergency Plans are similar throughout Vietnam, therefore, the organization can anticipate the following types of task:

a) Threat Evaluation: Security threats will be evaluated by the organization, in consultation with the Airport Authority, to determine whether they should be classed as genuine. After a threat is classed as genuine it becomes the responsibility of the Authority.

b) Passenger Lists: If the emergency involves an aircraft, the organization must be able to provide immediately, passenger, crew lists to the appropriate authorities.

c) Liaison: The organization will be expected to conduct liaison at the Airport Emergency Operations Centre (resources) and the forward Command Post at the emergency site.

d) Handling Person: Person waiting for the aircraft (or watching the aircraft depart) will need to be segregated to a private area to await news of the emergency.

e) Post Emergency Passenger Handling: Passengers who do not require immediate medical treatment will need to be moved from the emergency site to a terminal area. At the terminal, passengers will need to be formally registered by the Police as survivors, encouraged to telephone their next of kin and given comfort. For traumatic emergencies, a formal reunion process with Handling Person will need to be initiated in a private area. At this stage the authorities may hand passengers to the organization for further travel or to arrange accommodation. After a traumatic emergency, all passengers should be medically cleared before further travel.

14.6.4 The Airport Emergency Plan does not detail action after reunion of the uninjured or hospitalization of the injured. The State Police will set up a public inquiry facility using a phone number which may take many hours to open. At this stage, the organization will need to consult with the authorities to locate passengers who were medically evacuated, or missing, to enable it to answer

public inquiries. Arrangements for cargo removal, hull recovery and accident investigation will be detailed by the authorities

14.7 PASSENGER AND CREW WELFARE

14.7.1 Separation from Crew

After an incident, passengers must be separated from the crew as soon as practicable.

14.7.2 Care and Counselling

Passengers MUST be offered medical and psychological assistance after an incident for which ERP has been activated.

14.7.3 Debriefing

Passengers MUST be offered debriefing by trained personnel before they leave the airport if they are involved in any incident in which there was death, injury or severe aircraft damage.

14.8 CASUALTY AND NEXT-OF-KIN CO-ORDINATION

14.8.1 Relatives:

Because of the small numbers of staff available, answering public inquires should be limited to the next of kin or callers who can give information on passengers or staff involved in the emergency. Calls from non-next of kin should be politely terminated by stating the importance of answering inquiries from relatives.

14.8.2 Contacting Next of Kin

If the passengers involved in the emergency cannot call their relatives, then the organization should attempt to contact the next of kin for them. Additional information that may be available such as hospital address/contact number should be given. Normally, the condition of individual passengers should not be given because of the possibility for error. If fatalities have occurred, the Police will notify the next of kin, and not the airline.

14.8.3 Confirmation of Passengers Listed

Confirmation that a passenger was listed on the flight should be given on the first call by next of kin. It should be stressed that listing does not always mean that the person travelled and that Police confirmation should be awaited.

14.8.4 Call Back

A call back number should be given to next of kin for later information or requests. Information on any specific passenger must NOT be given to anyone other than their next of kin or the passenger's close relative.

14.9 ACCIDENT INVESTIGATION

Accident investigation will be carried out under the auspices of the CAAV. The Company and its officers will provide whatever co-operation is required.

14.10 ORGANIZATION ERP RESPONSE - ACCIDENT SITE

Given the size/scope of the Company's operations, any on site presence will be limited to required personnel to effect immediate actions such as emergency services assistance, passenger assistance and site security from interference by unauthorized persons.

14.11 PRESERVATION OF EVIDENCE

No unauthorized person is to interfere with any part of an aircraft or interfere in any way with the accident site, except so as to prevent further injury or damage to the aircraft or other facilities/amenities. Company records relating to the flight/aircraft in question (be they computer or 'hard' records) are to be quarantined should they be required by investigating authorities. These should include (at a minimum) passenger manifest records, aircraft weight/balance information and re-fuelling information.

14.12 MEDIA RELATIONS

14.12.1 Open communication

a) The Company will engage the service of an experienced media (public relations) Company to advise on actions to be taken.

b) When communicating with the media, the aim is to be open and timely. Releases should contain the facts and if the emergency has involved suffering, a brief explanation on what the organization is doing to assist in the situation. Assistance includes simple things such as the provision of information or the co-operation with authorities.

14.12.2 Seniority

Media spokesperson should be a manager of appropriate seniority to match the gravity of the emergency. Spokespersons should be media trained.

14.12.3 Authorized

Only authorized staff should communicate with the media. A spokesperson for the organization will be needed at the emergency site and at the OCC.

14.13 CLAIMS AND INSURANCE PROCEDURES

The Company's insurance agent is to be advised of the situation at the earliest opportunity. This will normally be done by the CEO.

14.14 AIRCRAFT WRECKAGE REMOVAL

Aircraft recovery/wreckage removal is to be carried out in consultation with the Company's insurer and investigating authorities.

14.15 EMERGENCY RESPONSE TRAINING

14.15.1 Exercise Requirement and Frequency

a) Emergencies demand that staff carry out duties that are not undertaken routinely. Effective training is required to ensure that the duties can be performed. Training also allows the ERP to be validated ranging from such things as the number of telephones provided to the suitability of forms etc.

b) Training should emphasize the first steps in the plan to prevent 'freezing'. Simply starting the process of call out and moving to the right location will be significant for successful implementation.

c) This plan can be divided into the following steps:

1) Activation (call out lists and call out procedures).

2) Formation of the OCC.

3) Communication and media affairs.

4) Post emergency handling of passengers.

d) For each of these activities, training should be conducted to achieve a standard where the emergency can be met. The table below shows the training effectiveness for emergencies. The stress of emergencies means that a high degree of realism is needed during training to achieve a good standard. Realistic training needs less revalidation.

Practical exercise or desktop exercise of the ERP must be carried out at least once every six months and a record of the conduct of such exercises and any shortcomings /lessons learned noted in Safety Committee meeting minutes.

14.15.2 Standards

The Emergency Response Exercise should achieve the following standards, or needs to be repeated:

a) Call out should be achieved for 80% of personnel within 15 minutes.

b) Transfer of control of the emergency to the OCC should be achieved within 15 minutes despite absences of key personnel.

c) The open line to the emergency site should be established within 5 minutes of notification of the emergency and should not be lost throughout the emergency.

d) Passengers should be satisfied with their treatment during and after the emergency. Accommodation, emergency funds, briefing, medical treatment and further travel should be provided without undue delay.

14.16 DOCUMENTATION

This SMSM and supporting documentation outlines the BAV' SMS program. It is recognized that the SMS will evolve over time through a continuous improvement process, and documentation will be revised from time-to-time, to reflect any changes.

CHAPTER 15 FATIGUE RISK MANAGEMENT SYSTEM (FRMS)

[IOSA ORG 2.1.5]

15.1 FATIGUE RISK MANAGEMENT SYSTEM (FRMS)

[Reference: VAR part 15; VAR 12.157, 14.042; ICAO Annex 6; FRMS Implementation Guide for Operator 1st Edition Jul 2011; FAA AC 120- 103A 05/6/2013 FRMS for Aviation Safety]

15.1.1 Purpose

This chapter provides BAV policy and regulation to establish and operate FRMS in accordance with ICAO ISARPs as well as CAAV - VAR 15.010 (b), 15.063 (a)

Currently, FRMS apply to Crew Member only. Based on CAAV specific regulations and this Chapter, other Departments/Divisions could establish FRMS for Dispatchers, Technical and Ground Services Staffs and others.

15.1.2 Components of FRMS

[Reference: VAR Appendix 1 to 15.063 (a)(1)]

a) Policy and documentation ;

b) Fatigue risk management ;

c) FRMS safety assurance;

d) FRMS promotion .

Note: Fatigue Risk Management System is incorporated into Safety Management System and approved by CAAV - VAR12.157 b2); VAR 12.157 (d)

15.1.3 Definition and Abbreviation

a) Definition

1) **Crew member fatigue:** A physiological state of reduced mental or physical performance capability resulting from sleep loss or extended wakefulness, circadian phase, or workload (mental and/or physical activity) that can impair a crew member's alertness and ability to safely operate an aircraft or perform safety related duties.

2) **Fatigue risk management system:** A data-driven means of continuously monitoring and managing fatigue-related safety risks, Based upon scientific principles and knowledge as well as operational experience that aims to ensure relevant personnel are performing at adequate levels of alertness.

b) Abbreviation

1) FRMS: Fatigue Risk Management System

2) FRM: Fatigue Risk Management

3) Crew: flight crew and cabin crew assigned duties for flights.

15.2 FRMS POLICY AND DOCUMENTATION

15.2.1 Fatigue safety action group (FSAG)

FSAG is responsible for coordinating all fatigue risk management activities at BAV. This includes responsibility for gathering, analysing, and reporting on data that facilitates the assessment of fatigue-related risk among flight crewmembers. The FSAG is also responsible for ensuring that the FRMS meets the safety objectives defined in the FRMS Policy, and that it meets regulatory requirements. The SQA exists to improve safety, and does not get involved in industrial issues.

15.2.2 Composition and Tasks

[Reference: VAR Appendix 2 to 15.063 (c), (d)]

a) SQA is directly responsible to Vice CEO in charge of Flight Operations and reports through safety division.

b) Safety Division members: Tasks and duties:

1) Develop, implement, and monitor processes for the identification of fatigue hazards;

2) Ensure that comprehensive risk assessment is undertaken for fatigue hazards;

3) Develop, implement, and monitor controls and mitigations as needed to manage identified fatigue hazards;

4) Develop, implement, and monitor effective FRMS performance metrics;

5) Cooperate with SQA to develop, implement and monitor FRMS safety assurance processes, based on agreed safety performance indicators and targets;

6) Ensure that all relevant personnel receive appropriate FRMS education and training, and that training records are kept as part of the FRMS documentation;

7) Communicate fatigue risks and the performance of the FRMS to senior management;

8) Ensure that it has adequate access to scientific and medical expertise as needed, and that it documents recommendations made by these specialist advisors and the corresponding actions taken.

9) FRMS team meeting is held month accompanied with FSAG.

15.2.3 FRMS Documentation

FRMS documentation is integrated into BAV - SMSM and includes the following:

a) FRMS policy and objectives;

b) FRMS processes and procedures;

c) Accountabilities, responsibilities and authorities for these processes and procedures;

d) Mechanisms for ongoing involvement of management, flight and cabin crew member and other involved personnel;

e) FRMS training program, training requirements;

f) Flight duty limitation and rest periods;

g) FRMS outputs including findings from collected data, recommendations and actions taken.

15.3 FATIGUE RISK MANAGEMENT PROCESSES

[Reference: VAR 15 Appendix 2 to 15.063]

15.3.1 Introduction to FRM

a) This content works through the basic steps for setting up FRM safety risk management processes, which are very similar to SMS safety risk management processes. The main difference is that SMS processes are designed to address all types of risks while FRM processes within an FRMS are specifically designed to manage the risks related to crewmember fatigue.

b) FRM processes include:

1) FRMS reporting requirement;

2) Identify where fatigue is a hazard;

3) Assess the risk level that a given fatigue hazard represents;

4) If necessary, put in place controls and mitigation strategies and monitor to make sure that they manage the risk at an acceptable level.

c) To do this, FRM processes require sorts of data, including:

1) Measures of fatigue level of crewmember;

2) Measures of operational performance.

15.3.2 Procedure

a) **Step 1: FRMS Report**

[Refer to VAR 15.08 (a) (b) (c) (d)]

1) Each crew member must report for any flight duty period rested and prepared to perform his or her assigned duties;

2) No crew member will accept and be assigned a flight duty if they reported too fatigued to safely perform his or her assigned duties.

3) No one may permit a crew member to continue a flight duty period if the crew member has reported him or herself too fatigued to continue the assigned flight duty period .

4) Each flight crew member must affirmatively state he or she is fit for duty prior to commencing flight.

b) **Step 2: Identify the operations covered**

1) Gather data and information in order to identify fatigue hazards in operations that are covered by FRM processes.

2) Data and information is gathered from reporting system, survey, FDA, safety-quality audit result...

c) **Step 3: Gather data and information**

[Reference: VAR 15 Appendix 3 to 15.63 (a)]

Fatigue hazard identification is carried out by 3 type of processes:

1) Reactive hazard identification processes

Reactive processes are designed to identify the contribution of crewmember fatigue to safety reports and events. The aim is to identify how the effects of fatigue could have been mitigated, and to reduce the likelihood of similar occurrences in the future. These processes are based on the following data source:

(i) Fatigue reports

(ii) Confidential reports

(iii) Audit reports

(iv) Incidents

(v) Flight data analysis events

2) Proactive hazard identification processes

These processes are based on the following data source:

(i) Voluntary reports

(ii) Crew fatigue survey

(iii) Flight crew performance data

(iv) Available safety databases and scientific studies

(v) Analysis of planned vs. actual time worked

3) Predictive hazard identification process

These processed focus on establishing crew schedules and conditions that consider factors known to affect sleep and fatigue in order to minimise their potential future effects. 03 possible ways of doing this are listed below:

(i) Previous experience (of BAV or others airlines) ;

(ii) Evidence-based scheduling practice;

(iii) Bio-mathematical models .

15.3.3 Risk Assessment

[Reference: VAR 15 Appendix 3 to 15.063 (b)]

a) Once a fatigue hazard has been identified, the level of risk that it poses has to be assessed and a decision made about whether or not that risk needs to be mitigated. Fatigue risk assessment follows SMS principles (combining risk probability and risk severity). It evaluates the potential for injury, equipment damage, or loss due to a fatigue hazard, and provides recommendations about management of that risk.

b) Fatigue risk assessment: refer Chapter 8 of this manual.

15.3.4 Risk Mitigation

Refer Chapter 8 of this manual

15.4 FRMS SAFETY ASSURANCE PROCESSES

[Reference: VAR 15 APPENDIX 4 TO 15.063]

15.4.1 SQA safety assurance processes are part of routine operation of FRMS and they monitor how well the entire FRMS is functioning. They check:

a) Check that the FRMS is functioning as intended;

b) Check that it meets the safety objectives defined in the FRMS policy;

c) Check that it meets regulatory requirements;

d) Identify where changes in the operating environment have the potential to increase fatigue risk;

e) Identify areas for improvement in the management of fatigue risk (continuous improvement of the FRMS).

f) To do this, FRMS safety assurance processes use a variety of data and information as safety performance indicators that can be measured and monitored over time and a safety target for each safety performance indicators.

15.5 FRMS PROMOTION PROCESSES

a) FRMS promotion processes include training programs and a communication plan. Along with FRMS policy and documentation, FRMS promotion processes support the core operational activities of FRMS (FRM processes and FRMS safety assurance processes).

b) FRMS training should ensure that all involved personal are trained and competent to undertake their responsibilities in the FRMS,

c) Like SMS, FRMS relies on effective communication throughout the operator's organization. On the one hand, there needs to be regular communication about the activities and safety performance of the FRMS to all stakeholders On the other hand, crewmembers and other stakeholders need to communicate promptly and clearly about fatigue hazards to the FSAG or other relevant management.

CHAPTER 16 APPENDIX

APPENDIX 7.2.1 LIST OF SERIOUS INCIDENTS (Level B)

[Refer to Decision 399/QD-CHK dated 25/02/2015]

No.	List of Mandatory Occurrence Report
1.	Near-miss collision among Aircrafts and must follow anti-collisio movement to avoid collisions or dangerous situations; real separation among aircrafts is 50% smaller than the minimum separation.
2.	Aircrafts which collide with others or other vehicles, equipment or obstacles on the ground but not detected as accidents.
3.	To control aircrafts into terrains that violates the minimum safety limit, which requires performing manoeuvres to avoid.
4.	To reject take-off on closed runways, occupied runways, on taxiways or on incorrect runways.
5.	To take off on closed runways, occupied runways, on taxiways or on incorrect runways.
6.	To land or go - around on closed runways, on occupied runways, on taxiways or on incorrect runways.
7.	Runway overrun or runway excursion.
8.	Failures which prevent aircrafts from achieving performance during take off or during the climb to initial altitude.
9.	Fire or smoke in the cockpit, cabins, cargo compartments or engine fire including one which is extinguished by fire extinguishers.
10.	Emergency situations which force the crew to use emergency oxygen
11.	Structural damage (major repair required) or engine separation but not yet lead to an accident.
12.	Many failures occuring in one or more aircraft's systems, which seriously affects the control of the aircraft.
13.	he crew's incapacity during flight.
14.	Not enough fuel which forces the crew to declare emergency situation
15.	Aircrafts which nearly collide with others, other vehicles or people on runway.
16.	System failures, unusual weather, operate the aircraft over approved limitation or other difficult circumstances which affect the control of the aircraft.
17.	Other incidents as defined by CAAV.

APPENDIX 7.2.2 LIST OF MANDATORY OCCURENCE REPORT

[Refer to Decision 399/QD-CHK dated 25/02/2015]

1. Near-miss between aircraft that required the use of TCAS procedures.

   Separation between aircraft that was less than the minimum standard.

2. Aircraft involved in a GPWS warning event.

   Separation beween the a/c and terrain was less than the minimum standard.

3. Rejected take-off.
4. Take-off outside of the RWY.
5. Landing or intended landing ouside of the RWY.
6. Touchdown short of the runway threshold.
7. Major failure which prevented the aircraft from achieving performance during take-off or during the climb to initial altitude.
8. Fire or smoke in the cockpit, cabin, cargo compartment or engine fire including one which was extinguished by the use of fire extinguishers.
9. Emergency situation which forced the crew to use emergency oxygen.
10. Multiple failures occuring in one or more aircraft systems, which seriously affected the control of the aircraft.
11. Crew incapacitation during flight.
12. Insufficeint fuel which forced the crew to declare a fuel emergency.
13. System failure, unforecast weather, aircraft operated in excess of an approved limitation or other circumstance which affected the control of the aircraft.
14. Structural damage (major repair required) or engine separation that did not result in an accident.
15. Failure of more than one system among the mandatory standby systems which provide flight direction and navigation.
16. Collision Risks:
    a) Collision risk between aircraft, between a/c and vehicle.
    b) Use of avoidance procedure between a/c, ground or vehicles.
    c) Manoeuvre to avoid unsafe situation.
17. Take-off or landing incidents, including precautionary or forced landings. Incidents such as:.

    a) Under-shooting, overrunning or running off the side of runways

    b) Take-offs, rejected take-offs, landings or attempted landings on a closed, occupied or incorrect runway; and

    c) Runway incursions
18. Insufficient fuel or unable to transfer fuel or inability to access unable fuel.

19. Loss of control (including partial or temporary loss of a control system) for any reason.
20. Incidents which occur at a speed equal to or higher than V1 which result in or have the potential to result in a dangerous situation (e.g. take-off cancellation, tail strike, engine power loss.)
21. Possible or potential dangers during a go-around.
22. Unintended deviation of speed, flight direction or altitude greater then 91m (300ft) for any reason.
23. To descend altitude lower than Decision Height (DH) or the allowed maximum landing height without the detection of prescribed visual reference criteria.
24. Loss of situaitonal awareness of the actual position of the aircraft or the position of the aircraft compared to other aircraft.
25. Interrupted communication among the flight crews or between the crew and other units such as cabin crew, or technical staff.
26. Heavy landing or landing after which a heavy landing inspection was required.
27. Fuel deviation exceeds the allowed limits.
28. Incorrect setting of SSR code or altimeter sub scale.
29. Improperly program, improperly update the parameters, or to use improper parameters for navigation devices or performance calculations.
30. Failure or malfunction of the fuel system which affected the supply and distribution of fuel.
31. Aircraft which unintendedly drift towards the runway or taxiway during take-off, landing and taxiing on the ground.
32. Collisions between aircraft and other vehicles, objects and people on the ground.
33. Incorrect or unintended movement of the control system.
34. Failure to achieve any expected perfomance during any phase of the flight.
35. Dangers or potential dangers which result from the creation of artificial failures in training, in the checking system or for training purposes.
36. Abnormal vibrations
37. Activation of major warning systems, which require a crew response, unless:
    a) The crew determines the warnings as false (listed in the flight log) and they present no risk while the crew responding to the warning; or
    b) The warnings are simulated for the purpose of training or a system check.
38. Warnings from Enhanced Ground Proximity Warning System EGPWS and Terrain Awareness and Warning System TAWS when the aircraft descends lower than the flight plan height or minimum altitude.
39. Warnings during Instrument Flight Conditions IMC or night conditions that are the result of excessive vertical speed (Mode 1)

40. Warning of gears and flaps. The gear or flaps were not extended in accordance with procedures.

41. Difficulties or dangers which occured or could have occured (e.g. inability to maintain the prescribed horizontal spacing with other routes) as the crew handled different types of alerts such as true warnings,or spurious warnings.
42. Difficulties or dangers which occured or could have occured while responding to an EGPWS/TAWS warning.
43. TCAS RA or TA.
44. Jet or prop blast incidents resulting in significant damage or serious injury.
45. Fire, explosion, smoke or toxic fumes, including fire which was extinguished.
46. Flight or cabin crew use of exceptional procedures to handle an emergency in which:
    a) Standard procedures were available but not used; or
    b) No procedures were available; or
    c) Procedures were available but they were incomplete or inappropriate; or
    d) Incorrect procedures were used; or
    e) Correct procedures were used but not fully implemented.
47. Procedures are not fully established for use in an emergency, including when used in maintenance, training and checking.
48. Circumstances which led to an emergency evacuation.
49. Loss of cabin pressure.
50. Use of emergency equipment or procedure to handle an in-flight situaiton.
51. Circumstances which lead to declaration of a MAYDAY or PAN.
52. Failures of systems or emergency equipment including emergency exit doors and lamps which are discovered during operation, maintenance or while training and checking.
53. Situations which require the crew to use emergency oxygen equipment.
54. Incapacition of flight crew members, including problems which occur prior to departure which could result in crew member incapacitation during flight.
55. Incapacitation of cabin crew which could result in not being able to perform an emergency evacuation.
56. Incidents which resulted in injury to passengers or crew but not were assessed as an accident.
57. Lightning strikes which damage the aircraft, or which result in the shutdown or improper operation of a major system (e.g. flight display, control, engine, communication, or navigation, etc.)

58. Ice which damages the aircraft, or which results in the shutdown or improper operation of a major system (as mentioned above).
59. Severe turbulence which results in injury to passengers or crew or results in an aircraft requiring an inspection after the encounter.
60. Encountering strong cross winds.
61. Ice encounter, which results in aircraft control issues, or results in a failure, shutdown or improper operation of a major system.
62. Illegal interference of the aircraft including bomb threat or hijacking.
63. Difficulties in controlling drunk people, violent people or passengers who fail to observe regulations.
64. Discovery of illegal passengers on the aircraft.
65. Specific incidents and repetitive phenomena which are not considered a reportable event but their repetitiveness has the potential to endanger flight safety.
66. Bird strikes which cause damage to aircraft, shutdown or improper operation of major system and equipment.
67. All other incidents which are deemed to effect or able to effect the safety of an aircraft, or people on the aircraft, or the ground.
68. Failure of a principle structure element which is considered a damage tolerant-life limited element. A principle structure element is an element of structure which contributes significantly to the carrying of flight, ground, or pressurization loads. These element's failure may result in the aircraft crashing.
69. Damage which exceeds the allowed limit of a principle structure element, which are considered damage tolerant elements.
70. Damage or failures of structural elements which exceed allowed limits and are able to reduce the reliability of elements, to disable the flutter annulment, the divergence annulment or to loss control reversal margins.
71. Structural failures of structural elements which are able to cause the separation of heavy parts and may result in injury to flight participants.
72. Structural failures of structural elements which affect the normal operation of other systems.
73. Loss of some structural elements during flight.
74. Loss, serious malfunction or failure of a system or subsystems or device which results in the inability to perform procedures according to Standard Operation Procedures SOP's..
75. Flight Crews loss of the ability to control a system such as:
    a) Operation which does not follow a control input.
    b) Control not responding or partially responding, including movement restrictions or inability to move.

c) Movement of the flight controls including rudders, flaps (leading edge and trailing edge devices), in excess of the input signal.
d) Mechanical interruption or interruption due to damage.

76. Failure or malfunction of one or more functions of a system (a system can have many functions).
77. Impact within or among systems.
78. Failure or malfunction of protection devices or an emergency system associated with the system.
79. Loss of systém redundancy.
80. Incidents which lead to activities outside the normal mode of the system.
81. For aircraft whose primary systems, secondary systems or major equipments are unique: shutdown, malfunction or failure of one of the primary systems, secondary systems or major equipment.
82. For aircraft that have multiple independent primary systems or secondary systems or multiple sets of major equipment (with the same function): shutdown, malfunction or failure of 02 or more primary systems, secondary systems or major equipments.
83. Activities of warning systems level 1 (Warning - level 1, Caution - level 2, Advisory - level 3) which are related to aircraft systems or equipment, unless it is determined by the crew that the warnings are false and cause no difficulty for the crew to handle the situation.
84. Leaks of hydraulic oil, fuel oil, lubricant or other liquids which cause a risk of fire or failure of the aircraft structure, systems, equipment or harm to passengers and crew members.
85. Malfunction of the flight information display system which leads to the possibility of providing incorrect infromation for pilots.
86. All failures or malfunctions which occur in the main phase of the flight (e.g. take-off, landing, descent or approach) and are related to the operation of a system.
87. Serious insufficiency of practical features of the system compared with approved perfomance which is able to cause dangerous situations (including the accuracy of the calculation method of such perfomance) during the use of the brakes, fuel consumption, etc.
88. Assymetric control systems including slats, and flaps.
89. Engine failure, in-flight shutdown or operational malfunctions of one of the engines.
90. Over speed or inability to control speed of high speed components such as auxiliary power unit (APU), air starter, air condition turbine of conditioning system, gas turbine rotor, propellers or helicopters rotors.

91. Failure or malfunction of an engine part or equipment used to to create power which lead to one of the following cases:
    a) Uncontained failure of the destroyed equipment;
    b) Inability to alert and extinguish an internal or external fire or leaked hot air; Thrust in a direction different from that demanded by the pilot;
    c) Thrust reverse system does not function or functions involuntarily;
    d) Inability to control power, thrust or revolution;
    e) Damage or failure of engine support structure;
    f) Loss of one part or the whole of the major part of the power plant;
    g) Visible smoke or toxic substances which may result in unconsciousness to the crew and passengers;
    h) Inability to shut down the engine when applying normal shutdown procedures;
    i) Inability to restart the engine when the engine is servicable.
92. Loss, change or oscillation of involuntary power/thrust due to uncontrolled power/thrust of the engine:
    a) For single-engine aircraft;
    b) When considered exceeding normal limits;
    c) When this can affect multiple engines on an aircraft with two or more engines; or
    d) When the situation is considered dangerous and serious for aircraft with two or more engines engines of the same type.
93. Failure of life limited parts or hard time controlled parts which lead to the replacement of those parts before the prescribed time limit.
94. Failures from the same cause which lead to a high in-flight shutdown rate, or the risk of shutdown of two or more engines in flight.
95. Limited parts or engine control devices which fail to function or function involuntarily when required.
96. Exceedence of allowable engine parameter limits.
97. Strikes which damage the engine, rotors or transmission.
98. Damage or malfunction of the rotors or power generation parts which lead to one of the following:
    a) Exceeding rotor RPM;
    b) To produce drag which exceeds the allowable limit;
    c) To produce thrust with the opposite direction to that commanded by the crew;
    d) Rotor separation or separation of key rotor compenents.
    e) Damage causing imbalance exceeding the allowed limit;
    f) Involuntary movement of the rotors which is below the lowest allowable in flight variable range (according to each mode of the engine);

g) Unable to feather a propeller;
h) Inability to control the rotor variable range;
i) Involuntary change of rotor variable range;
j) Loss of torque control and RPM fluctuations;
k) The release of low-energy parts.

99. Damage or failure of main grear box / engine grear box which resulted in rotor part separation, and / or malfunction of the rotor control.
100. Damage to the helicopter tail rotor, transmission system, or other similar system.
101. Shutdown or failure of the auxiliary power unit (APU) during EDTO (extended diversion time operation) or in compliance with the minimum equipment list (MEL) requirement.
102. Inability to shut down the APU.
103. Overspeed of the APU.
104. Inability to start the APU when required for EDTO or when required by the MEL as a backup generator.
105. Human factors occurrences, including any incident where any feature or inadequacy of the aircraft design could have led to an error of use that could contribute to a hazardous or catastrophic effect.
106. Common incidents not included in the list of reportable incidents (e.g. incidents of passenger serving equipment system, cabin equipment, aircraft water system) but have become unsafe for the aircraft, passengers and crew members.
107. Fire, explosion, smoke or toxic or harmful fumes.
108. All other incidents which have the potential to be unsafe for aircraft, passengers, crew members or people or property around aircraft on the ground.
109. Failure or defect of passenger address system resulting in loss of, or inaudible, passenger address system.
110. Loss of pilot seat adjustment during flight.
111. Incorrect installation of parts or equipment on the aircraft which is detected during unexpected tests or performance of test procedures for the purpose of detecting such incorrect installation.
112. Hot air leaking which leads to structural damage of the aircraft.
113. Failure of life limited parts which lead to the replacement of those parts before the prescribed time limit.
114. Damage and degradation (crack, split, rust, delamination or disbonding) for any reason (e.g. vibration, loss of material hardness or structural damage) of:
    a) Primary structures or structural parts of main frame as specified in the Structural Repair Manual (SRM) when that damage or degradation of those

primary structures exceeds the allowed limit as prescribed in SRM and thus, requiring repair or replacement partially or entirely the structures;

b) a secondary structure which consequently has or may have endangered the aircraft;

c) The engines, rotors or rotary wings system.

115. Damage, malfunction or failure of systems or equipment, or damage or degradation which is detected in the process of compliance with Airworthiness Directives, mandatory Service Bulletin for each type of aircraft, when:
    a) First developed in the process of mandatory technical notice implementation;
    b) In later times of performing mandatory SB, it is discovered that the damage, malfunction or failure exceeds the allowed limit as prescribed in the manual and/or corresponding repair procedure.
116. Failure of emergency equipment or systems including emergency doors and lamps which perform an emergency exit function, even when those failures are detected in maintenance or operational inspection.
117. Failure to follow or seriously violate required maintenance procedures.
118. Aircraft, engines, rotors, parts, equipment or materials who origin is unclear or suspect.
119. Maintenance, procedure manuals which are incorrect, incomplete or could result in maintenance errors.
120. Damage, malfunction or failure of ground equipment that are used for checking the function of systems and equipment to detect problems that normal process of inspection and testing fails to detect when they (damage, malfunction or failure of the ground equipment) may result in unsafe aircraft operations.
121. To provide incorrect, uncompleted or misleading information from ground sources such as air traffic control, Automatic Terminal Information Service ATIS, meteorology, aviation news alerts service, navigation databases, maps, charts and documentation, etc.
122. Provide terrain clearance lower than prescribed.
123. Provide incorrect barometric pressure data such as barometric altitude.
124. Improperly allocate, transmit or receive instructions, which causes or are able to result in unsafe flight operations.
125. To violate the minimum separation standards between aircraft, or separation standards between aircraft and vehicles on the runway or taxiway.
126. To enter airspace without permission or to violate the no-fly zone.
127. Aircraft which require holding or cancellation of take-off or landing due to obstacles on runway.

128. To disrupt communication between the crew and air traffic control, which affects flight operations or flight operations management.
129. To interfere with an aviation radio frequency, which affects flight operations or flight operations management.
130. Unlawful radio communication transmission.
131. To detect to drop equipment, widgets and other objects in the air, which affects or is able to affect flight safety.
132. Aircraft which take off/ land on the wrong runway or move on the wrong taxiway.
133. To improperly perform a flight approval which results in a threat to flight safety or flight operations.
134. Failure to comply with regulations, on an air traffic flight plan, flight rules, or flight modes, which leads to difficulties or affects flight safety.
135. Do not comply with instructions, indications of flight operation organizations
136. Transfer of aircraft control without use of procedures or the incorrect implementation of the procedure.
137. Spillage of fuel during refueling.
138. Incorreect fuel uplift, which had the potential to seriously affect load capacity, perfomance, balance or structural reliability of the aircraft.
139. Unsatisfactory De/Anti Icing on the ground.
140. Aerodromes, taxiways, runways which are blocked by aircraft, motor vehicles, animals or foreign objects. Weather, storms, floods, fires and explosions, which may result in an unsafe condition.
141. Error alerts or incomplete warnings of obstacles or hazards on the aerodromes, taxiways, runways, which resulted in an unsafe condition.
142. Failure or malfunction of an airport lighting system or no airport lighting systém available.
143. Pollution, serious contamination of the aircraft structure, aircraft equipment or systems during luggage or cargo transportation.
144. Incorrect aircraft loading (passengers, luggage or cargo) which seriously affected the center of gravity and the weight of the aircraft.
145. Incorrect aircraft loading, including hand luggage which resulted in an unsafe condition for the aircraft, equipment, passengers and crew members or obstructed an exit in the case of an emergency.
146. Incidents from the transport of dangerous goods, which contravene the operating regulations.
147. Loading fuel or other liquids which are contaminated or the incorrect type.

APPENDIX 7.2.3 CLASSIFICATION OF AVIATION ACCIDENT, INCIDENT AND OCCURRENCE

Level	Classification
A	**1. Aircraft accidents** Are incidents related to the aircraft operation in the period from any person on board the aircraft to perform flight until the last person leaves the aircraft that occurs one of the following cases: a. There are dead or seriously injured by being in the aircraft or due to direct impact of any part of the aircraft, including parts separated from the aircraft or due to direct impact of the jet air flowed out of the aircraft engines, excluding injuries due to natural causes or self-inflicted or caused by other people and injuries of illegal passengers hiding outside the areas reserved for passengers or the crew. b. Damaged aircrafts or damaged aircraft structures negatively affect the reliability of structure, flight characteristics of aircrafts, which requires overhaul or replacement of damaged components, except failures or malfunctions of aircraft engines which only affect the aircraft engines, device casings or equipment of aircraft engines or failures which only affect aircraft rotors, antennas, tires, brakes, aerodynamic aircraft fairings or only dimples, small hole in the shell of the aircrafts. c. Missing or completely inaccessible aircrafts. ** Note 1: to unify in statistical work, injuries leading to death within 30 days from the date of the incident is considered fatal injuries.* *** Note 2: aircrafts is considered to be missing when the official search has ended without indentifying the location of the aircrafts' debris.*
B	**2. Serious incidents** a. The incidents occur in which situations revealing that the accident almost happens. b. These serious incidents are listed in Appendix 8.2.1 of this manual.
C	**3. Major incidents** Are incidents listed in Appendix 8.2.2 of this manual with the following conditions: ***a. In operation and maintenance of aircrafts:*** i. To reduce the necessary ability of the crew and system to handle adverse situations, which causes severely reduction in safety level and work ability of some key functions; or

Level	Classification
C	ii. To significantly increase the workload of the crew to handle situations, which degrades the work efficiency of the crew, causing panic, fear for the crew, passengers or causing minor injuries; or iii. To cause great damage to the aircraft or heavy pollution to the environment but not yet considered serious incidents; or iv. The cause of the incidents or consequential damage to aircrafts, systems and equipment due to the incidents are unidentified or fail to overcome by operation, maintenance, repair procedures in the operation, maintenance, repair manual approved by Vietnam Aviation Department, leading to the stop of operation for more than 96 hours (excluding the cases of material replacement waiting) or similar failures on the same devices, systems leading to the second application of similar emergency state during 7 days of continuous operation. ***b. In flight operation:*** i. To significantly impact on flight operation and flight safety, leading to nearly collision with other aircrafts but not yet considered serious incidents; or ii. The actual distance between the aircrafts and the ground or obstacles is violated but greater than or equal to 50% and 80% smaller than the safety distance; or iii. Separation between aircrafts (not tend to confront) is violated but greater than or equal to 50% and 80% smaller than the safety separation; or iv. The cause of the incidents requires inspection, verification and remedial measures and safety enhancement (reference of incidents which require inspection, verification in Appendix IX of the Regulation on safety reporting.) ***c. In aerodromes:*** To cause infrastructural damage of the aerodromes, equipment, vehicles involved in flight zone or to cause unsafe for people, vehicles in flight zone, which directly affects aircraft operation safety.
D	**4. Critical incidents** Are listed in Appendix 8.2.2 of this manual with the following conditions: ***a. In operation and maintenance of aircrafts:*** i. Affect the flight safety but not to the extent of high endangering the safety; all handling actions are within the ability of the crew; or ii. To reduce the flight safety or ability to function of some functions and increase (not much) the workload of the crew such as flight planning changer or flight method change; or iii. To cause discomfort for the crew, passengers or minor damage to the aircraft. However, after the incidents, consequential damage to aircrafts, systems and

Level	Classification
D	equipment are overcome by operation, maintenance, repair procedures in the operation, maintenance, repair manual approved by Vietnam Aviation Department, leading to further normal operation of the aircraft; or ***b. In flight operation:*** i. The actual distance between the aircraft and the ground or obstacles is violated but greater than or equal to 80% of the safety distance; or ii. Separation between aircrafts (not tend to confront) is violated but greater than or equal to 80% of the safety separation; or iii. To affect flight operations and flight safety but not to the extent of level C, all handling actions are within the ability of the crew. Flight operations, flight control are carried out normally but require risk assessment; ***c. In aerodromes:*** Collisions between vehicles and others, between vehicles and people cause infrastructural damage of the aerodromes, equipment, which is able to affect aircraft operation safety.
E E	**5. Event** Are those not directly threatening the safety and listed in Appendix 8.2.2 of this manual, with the following characteristics: a. To not directly impact on flight safety or cause any difficulty for the crew during the next flight after the incidents. After the incidents, consequential damage to aircrafts, systems and equipment are overcome by operation, maintenance, repair procedures in the operation, maintenance, repair manual approved by Vietnam Aviation Department, leading to further normal operation of the aircraft; b. To impact on flight operation and not yet on flight safety or after assessment the level of incidents in considered level D; c. To impact on the aviation service provision at aerodromes but to not impact on flight safety. The report of those incidents is considered a means of providing statistical information for the purpose of assessing potential risks, making safety preventive recommendations.

APPENDIX 7.2.4 LIST OF OCCURRENCES TYPES TO BE INVESTIGATED

a) Risk of collision with an aircraft, when avoidance manoeuvre has been implemented to avoid unsafe situations.

b) Collision between an aircraft and any other aircraft, vehicle or other ground object.

c) Reject take-offs at the end of runway or overrunning or running off the side of runways.

d) Take-offs at the end of the runway or beside the runway

e) Landing or intend to land at the end of runway or beside the runway

f) Aircraft touch down early or running off the side of runway

g) Inability to achieve predicted performance during take-off or initial climb.

h) Fire, explosion, smoke on board, cargo compartment or engine even though fires were extinguished.

i) Events requiring any emergency use of oxygen by any crew member

j) The loss, significant malfunctions or defects of one system or more than one system that seriously affects the aircraft operations.

k) Incapacitation of any member of the flight crew in flight.

l) Fuel problems lead flight crew declared the emergency situation.

m) System failures, abnormal significant weather or over limit operation situations that is difficult for aircraft control.

n) Malfunction/damage of aircraft structure or engine mount is splitted but it is not an accident.

o) Loss several systems in which on system that required redundancy for navigation.

p) The other occurrences must be investigated by ICAO.

APPENDIX 7.3.6.1 CAAV FORM 14 - OCCURRENCE REPORT FORM

Ministry of Transport
CIVIL AVIATION AUTHORITY OF VIETNAM

OCCURRENCE REPORT

Flight Safety Standard Department
Civil Aviation Authority,
Asica Group,
119 Nguyen Son Str,
Long Bien Dist,
Hanoi,
Vietnam
e-mail: asica@caa.gov.vn
Fax: +84.24.38271933 Tel: +84.24.38272291

Please complete and submit this form online or print and send it to the above

CAA Occurrence Number

Are you concerned about the confidentiality of this report and wish to be contacted before it is processed? If so, please ensure you provide us with your contact details.

Confidential? Yes ☐ No ☐

AIRCRAFT TYPE & SERIES	REGISTRATION	DATE (dd/mm/yyyy)	TIME OF EVENT UTC (HH:MM)	DAY ☐ NIGHT ☐ TWILIGHT ☐
OPERATOR	LOCATION/POSITION/RW		00:00	

FLIGHT NO.	ROUTE FROM	ROUTE TO	FL ☐ ALT/HT (FT) ☐	AS (KT)	IFR ☐ VFR ☐	TCAS RA YES ☐ NO ☐	ETOPS YES ☐ NO ☐

NATURE OF FLIGHT	FLIGHT PHASE
Please Select	Please Select

ENVIRONMENTAL DETAILS

WIND DIRN.	WIND SPEED (kt)	CLOUD TYPE	CLOUD HT (ft)	PRECIPITATION	VISIBILITY	ICING	TURBULENCE	OAT (°C)	RUNWAY STATE
				Not Applicable	KM ☐ NM ☐	None	None		Please Select
				Not Applicable					CATEGORY: Please Select

BRIEF TITLE

DESCRIPTION OF OCCURRENCE

Any procedures, manuals, pubs. (AIC, AD, SB etc.) directly relevant to occurrence and (where appropriate) compliance state of aircraft, equipment or documentation.	

Form 14 Issue 10 2020

Page 1 of 2

GROUND STAFF REPORT					
A/C CONSTRUCTOR'S NO.	ENGINE TYPE/SERIES	ETOPS APPROVED		GROUND PHASE	MAINTENANCE ORGANISATION
		YES ☐	NO ☐	MAINTENANCE ☐ GROUND HANDLING ☐ UNATTENDED ☐	TEL.

COMPONENT/PART	MANUFACTURER	PART NO.	SERIAL NO.
REFERENCES:- MANUAL/ATA/IPC		COMPONENT OH/REPAIR ORGANISATION	

ORGANISATION AND APPROVAL REFERENCE	NAME	POSITION
DATE (dd/mm/yyyy)		

If report is voluntary (i.e. not subject to mandatory requirements) can the information be published in the interests of safety?	YES ☐ NO ☐	Address and tel.no. (if reporter wishes to be contacted privately).	NOTE 1: If additional information, as below, is available, please provide. NOTE 2: If the occurrence is related to a design or manufacturing deficiency, the manufacturer should also be advised promptly. NOTE 3: Where applicable, a report of this incident should be forwarded directly to other agencies involved, e.g. Aerodrome Authority, ATC agency.

REPORTING ORGANISATION - REPORT

ORGANISATION COMMENTS - ASSESSMENT/ACTION TAKEN/SUGGESTIONS TO PREVENT

UTILISATION - AIRCRAFT				UTILISATION - ENGINE/COMPONENT				MANUFACTURER ADVISED	
	TOTAL	SINCE OH/REPAIR	SINCE INSPECTION		TOTAL	SINCE OH/REPAIR	SINCE INSPECTION	YES ☐	NO ☐
HOURS CYCLES LANDINGS				HOURS CYCLES LANDINGS					

REPORTING ORGANISATION	TEL.	REPORTER'S REF	REPORT		REPORTER'S INVESTIGATION			FDR DATA RETAINED	
E-MAIL	FAX		NEW ☐	SUPPL ☐	NIL ☐	CLOSED ☐	OPEN ☐	YES ☐	NO ☐
NAME		POSITION			TEL				
E-MAIL							DATE (dd/mm/yyyy)		

Clear Form Submit Form

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APPENDIX 7.3.6.2 FORM AIR TRAFFIC INCIDENT REPORT

[Refer to Decision 399/QD-CHK dated 25/02/2015]

MẪU BÁO CÁO SỰ CỐ KHÔNG LƯU CỦA ICAO

Sử dụng để lập và nhận báo cáo về sự cố không lưu. Những ô tô xám là những mục cần cho việc báo cáo ban đầu qua vô tuyến (radio)

A — NHẬN DẠNG TÀU BAY	**B — KIỂU LOẠI SỰ CỐ** GẦN VA CHẠM /CHƯỚNG NGẠI VẬT TRÊN ĐƯỜNG CHC/XÂM NHẬP ĐƯỜNG CHC / PHƯƠNG THỨC/THIẾT BỊ*	
C — SỰ CỐ		
1. Khát quát a) Ngày/Thời gian xảy ra sự cố _____UTC b) Vị trí _____		
2. Tàu bay liên quan		
a) Hướng mũi và đường bay _____		
b) Tốc độ thật _____ đo bằng ( ) kt _____ ( ) km/h		
c) Mực bay và đặt khí áp _____		
d) Tàu bay lấy độ cao hoặc giảm độ cao		
( ) Bay bằng	( ) Lấy độ cao	( ) Giảm độ cao
e) Góc nghiêng theo trục dọc		
( ) Mức thăng bằng	( ) Nghiêng ít	( ) Nghiêng vừa
( ) Nghiêng nhiều	( ) Lộn ngược	( ) Không biết
f) Hướng nghiêng của tàu bay		
( ) Trái	( ) Phải	( ) Không biết
g) Các hạn chế về tầm nhìn (lựa chọn nhiều nhất có thể theo yêu cầu)		
( ) Chói do ánh nắng mặt trời	( ) Rèm	( ) Kính bị bẩn
( ) Do cấu tạo của buồng lái	( ) Không có	
h) Sử dụng đèn tàu bay (lựa chọn nhiều nhất có thể theo yêu cầu)		
( ) Đèn dẫn đường	( ) Đèn nhấp nháy	( ) Đèn ca bin
( ) Đèn chống va chạm màu đỏ	( ) Đèn hạ cánh / lăn	( ) Đèn lô gô (dưới đuôi)
( ) Đèn khác	( ) Không có	
i) Tư vấn tránh va chạm của cơ sở ATS		
( ) Có, sử dụng hệ thống giám sát ATS	( ) Có, dựa vào quan sát bằng mắt	( ) Có, dựa vào những tin tức khác
( ) Không		
j) Tin tức về hoạt động bay được cung cấp		
( ) Có, sử dụng hệ thống giám sát ATS	( ) Có, dựa vào việc quan sát bằng mắt	( ) Có, dựa vào những tin tức khác
( ) Không		

k) Hệ thống tránh va chạm trên tàu bay — ACAS		
( ) Không được trang bị	( ) Kiểu loại	( ) Tư vấn về hoạt động bay được cung cấp
( ) Đưa ra tư vấn giải pháp	( ) Không đưa ra tư vấn hoạt động bay hoặc tư vấn giải pháp	
l) Nhận dạng bằng hệ thống giám sát ATS		
( ) Không có hệ thống giám sát ATS	( ) Được nhận dạng bằng hệ thống giám sát ATS	( ) Không được nhận dạng bằng hệ thống giám sát ATS
m) Được nhìn thấy bởi một tàu bay khác		
( ) Có	( ) Không	( ) Tàu bay khác nhận diện sai
n) Hành động bay tránh được thực hiện		
( ) Có	( ) Không	
o) Loại kế hoạch bay IFR / VFR / không*	IFR / VFR / không*	
3. Tàu bay khác		
a) Kiểu loại và tên gọi thoại / đăng ký (nếu biết)		
b) Nếu không có thông tin như mục a) ở trên, mô tả như dưới đây		
( ) Loại tàu bay cánh trên	( ) Loại tàu bay cánh giữa	( ) Loại tàu bay cánh dưới
( ) Máy bay trực thăng		
( ) 1 động cơ	( ) 2 động cơ	( ) 3 động cơ
( ) 4 động cơ	( ) Hơn 4 động cơ	
Dấu hiệu, màu sắc hoặc các chi tiết khác _____ _____ _____ _____		
c) Tàu bay lấy độ cao hoặc giảm độ cao		
( ) Bay bằng	( ) Lấy độ cao	( ) Giảm thấp độ cao
( ) Không biết		
d) Góc nghiêng theo trục dọc		
( ) Mức thăng bằng	( ) Nghiêng ít	( ) Nghiêng vừa
( ) Nghiêng nhiều	( ) Lộn ngược	( ) Không biết
e) Hướng nghiêng của tàu bay		
( ) Trái	( ) Phải	( ) Không biết
f) Sử dụng đèn tàu bay (lựa chọn nhiều nhất có thể theo yêu cầu)		
( ) Đèn dẫn đường	( ) Đèn nhấp nháy	( ) Đèn ca bin
( ) Đèn chống va chạm màu đỏ	( ) Đèn hạ cánh / lăn	( ) Đèn lô gô (dưới đuôi)
( ) Đèn khác	( ) Không có	

g) Tư vấn tránh va chạm hoạt động bay của cơ sở ATS		
( ) Có, sử dụng hệ thống giám sát ATS	( ) Có, dựa vào quan sát bằng mắt	( ) Có, dựa vào những tin tức khác
( ) Không		
h) Tin tức về hoạt động bay được cung cấp		
( ) Có, sử dụng hệ thống giám sát ATS	( ) Có, dựa vào việc quan sát bằng mắt	( ) Có, dựa vào những tin tức khác
( ) Không		
i) Hành động bay tránh được thực hiện		
( ) Có	( ) Không	

4. Cự ly

a) Cự ly gần nhất theo chiều ngang _____

b) Cự ly gần nhất theo chiều thẳng đứng

5. Điều kiện thời tiết của chuyến bay

a) IMC / VMC*

b) Bên trên / bên dưới* mây / sương / sương mù hoặc giữa các tầng mây*

c) Cự ly theo chiều thẳng đứng từ mây là _____ m / ft* dưới _____ m / ft* trên

d) Trong mây / mưa / tuyết / mưa tuyết / sương / sương mù*

e) Bay vào / ra khỏi* mặt trời

f) Tầm nhìn chuyến bay là _____m / km*

6. Những tin tức khác được lái trưởng cho là quan trọng

_____

_____

_____

_____

_____

D — NHỮNG TIN TỨC KHÁC

1. Tin tức liên quan đến tàu bay báo cáo

a) Đăng ký tàu bay _____ b)

Kiểu loại tàu bay _____ c) Nhà

khai thác _____ d) Sân bay

khởi hành _____

e) Sân bay hạ cánh đầu tiên _____ điểm đến _____

f) Được thông báo qua radio hoặc các phương tiện khác tới _____ (tên cơ sở ATS) vào lúc _____ UTC

g) Ngày/thời gian/địa điểm điền mẫu báo cáo _____

Chức vụ, địa chỉ và chữ ký của người lập báo cáo

a) Chức vụ _____ b) Địa chỉ _____ c) Chữ ký _____ d) Số điện thoại _____

Chức vụ và chữ ký của người nhận báo cáo

a) Chức vụ _____ b) Chữ ký _____

TIN TỨC BỔ SUNG TỪ CƠ SỞ ATS LIÊN QUAN

Nhận báo cáo

a) Báo cáo nhận được từ AFTN / radio / điện thoại / phương tiện khác (chỉ rõ)* _____

b) Báo cáo nhận được từ _____ (tên cơ sở ATS)

Các chi tiết về hành động của cơ sở ATS

Huấn lệnh, sự cố được quan sát (hệ thống giám sát ATS / bằng mắt, đưa ra cảnh báo, kết quả việc yêu cầu nội bộ, v.v.)

_____

_____

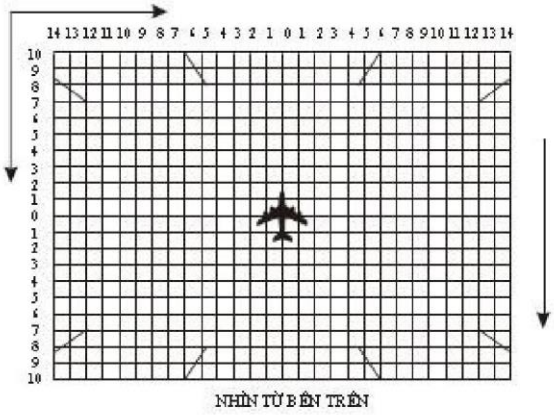
_____

_____

BIỂU ĐỒ CỦA TÀU BAY GẦN VA CHẠM

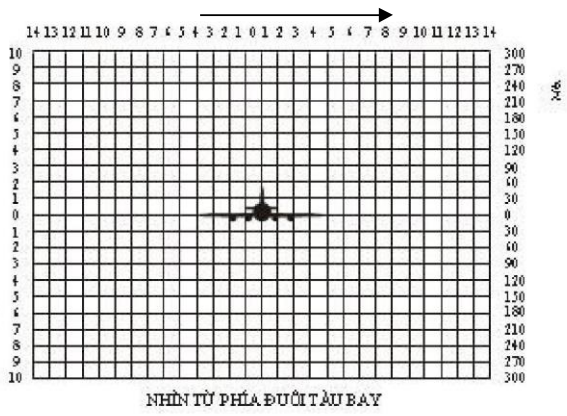
Đánh dấu đường đi của tàu bay khác liên quan đến mình, trên mặt phẳng ở bên trái và theo độ cao về bên phải, giả sử bạn đang ở giữa biểu đồ này. Bao gồm cự ly nhìn thấy và vượt qua đầu tiên.

Hàng trăm mét



NHÌN TỪ BÊN TRÊN

Hàng trăm mét



NHÌN TỪ PHÍA ĐUÔI TÀU BAY

Loại bỏ nếu không cần thiết

1. ICAO model air traffic incident report form

AIR TRAFFIC INCIDENT REPORT FORM

For use when submitting and receiving reports on air traffic incidents. In an initial report by radio, shaded items should be included.

A — AIRCRAFT IDENTIFICATION	B — TYPE OF INCIDENT
	AIRPROX / OBSTRUCTION ON RUNWAY/RUNWAY INCURSION / PROCEDURE / FACILITY*

C — THE INCIDENT

1. General

a) Date / time of incident _____ UTC

b) Position _____

2. Own aircraft

a) Heading and route _____

b) True airspeed _____ measured in ( ) kt _____ ( ) km/h _____

c) Level and altimeter setting

d) Aircraft climbing or descending

( ) Level flight ( ) Climbing ( ) Descending

e) Aircraft bank angle

( ) Wings level ( ) Slight bank ( ) Moderate bank

( ) Steep bank ( ) Inverted ( ) Unknown

f) Aircraft direction of bank

( ) Left ( ) Right ( ) Unknown

g) Restrictions to visibility (select as many as required)

( ) Sunglare ( ) Windscreen pillar ( ) Dirty windscreen

( ) Other cockpit structure ( ) None

h) Use of aircraft lighting (select as many as required)

( ) Navigation lights ( ) Strobe lights ( ) Cabin lights

( ) Red anti-collision lights ( ) Landing / taxi lights ( ) Logo (tail fin) lights

( ) Other ( ) None

i) Traffic avoidance advice issued by ATS

( ) Yes, based on radar ( ) Yes, based on visual sighting ( ) Yes, based on other information

( ) No

j) Traffic information issued

( ) Yes, based on radar ( ) Yes, based on visual sighting ( ) Yes, based on other information

( ) No

k) Airborne collision avoidance system — ACAS

( ) Not carried ( ) Type ( ) Traffic advisory issued

( ) Resolution advisory issued ( ) Traffic advisory or resolution advisory not issued

l) Radar identification

( ) No radar available ( ) Radar identification ( ) No radar identification

m) Other aircraft sighted

( ) Yes ( ) No ( ) Wrong aircraft sighted

* Delete as appropriate

n)	Avoiding action taken			
	( ) Yes	( ) No		
o)	Type of flight plan	IFR / VFR / none*		
3.	**Other aircraft**			
a)	Type and call sign / registration (if known) _____			
b)	If a) above not known, describe below			
	( ) High wing	( ) Mid wing	( ) Low wing	
	( ) Rotorcraft			
	( ) 1 engine	( ) 2 engines	( ) 3 engines	
	( ) 4 engines	( ) More than 4 engines		
	Marking, colour or other available details			
	_____			
	_____			
	_____			
	_____			
c)	Aircraft climbing or descending			
	( ) Level flight	( ) Climbing	( ) Descending	
	( ) Unknown			
d)	Aircraft bank angle			
	( ) Wings level	( ) Slight bank	( ) Moderate bank	
	( ) Steep bank	( ) Inverted	( ) Unknown	
e)	Aircraft direction of bank			
	( ) Left	( ) Right	( ) Unknown	
f)	Lights displayed			
	( ) Navigation lights	( ) Strobe lights	( ) Cabin lights	
	( ) Red anti-collision lights	( ) Landing / taxi lights	( ) Logo (tail fin) lights	
	( ) Other	( ) None	( ) Unknown	
g)	Traffic avoidance advice issued by ATS			
	( ) Yes, based on radar	( ) Yes, based on visual sighting	( ) Yes, based on other information	
	( ) No	( ) Unknown		
h)	Traffic information issued			
	( ) Yes, based on radar	( ) Yes, based on visual sighting	( ) Yes, based on other information	
	( ) No	( ) Unknown		
i)	Avoiding action taken			
	( ) Yes	( ) No	( ) Unknown	

c) Distance vertically from cloud _____ m / ft* below _____ m / ft* above

d) In cloud / rain / snow / sleet / fog / haze*

e) Flying into / out of* sun

f) Flight visibility _____ m / km*

6. Any other information considered important by the pilot-in-command

_____

_____

_____

_____

_____

_____

D — MISCELLANEOUS

1. Information regarding reporting aircraft

a) Aircraft registration _____

b) Aircraft type _____

c) Operator _____

d) Aerodrome of departure _____

e) Aerodrome of first landing _____ destination _____

f) Reported by radio or other means to _____ (name of ATS unit) at time _____ UTC

g) Date / time / place of completion of form _____

2. Function, address and signature of person submitting report

a) Function _____

b) Address _____

c) Signature _____

d) Telephone number _____

3. Function and signature of person receiving report

a) Function _____ b) Signature _____

E — SUPPLEMENTARY INFORMATION BY ATS UNIT CONCERNED

1. **Receipt of report**

   a) Report received via AFTN / radio / telephone / other (specify)* _____

   b) Report received by _____ (name of ATS unit)

2. **Details of ATS action**

   Clearance, incident seen (radar/visually, warning given, result of local enquiry, etc.)

   _____

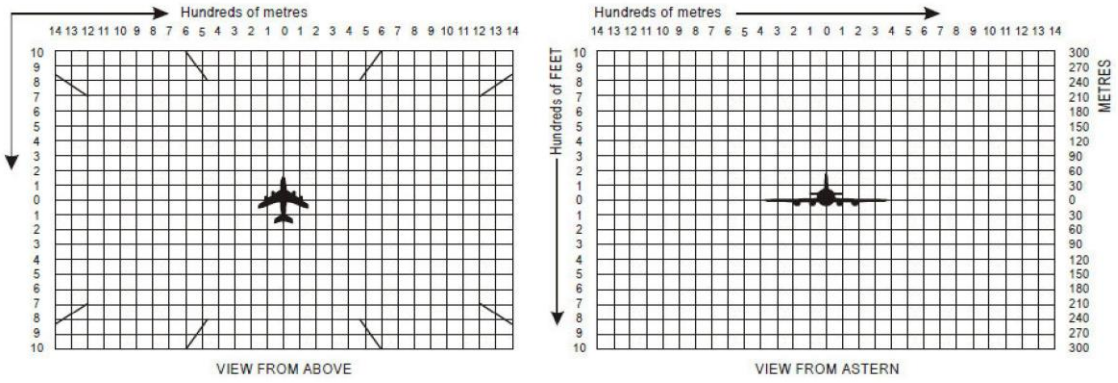
   _____

   _____

   _____

DIAGRAMS OF AIRPROX

Mark passage of other aircraft relative to you, in plan on the left and in elevation on the right, assuming YOU are at the centre of each diagram. Include first sighting and passing distance.



APPENDIX 7.3.6.3 FORM CONFIDENTIAL REPORT

Kính gửi/ To: Giám đốc Ban An toàn - Chất lượng
Director Safety and Quality Assurance Division
Công ty TNHH Hàng không Tre Việt
Tầng 3, nhà N01T3, Ngoại Giao Đoàn, Xuân La
Hà Nội, Việt Nam

Hãy gửi cho chúng tôi báo cáo của Ông / Bà theo những hướng dẫn sau:

Please send us your report with this prepaid business reply folder

1. Gấp theo các đường chấm.
   Fold along the dotted lines.
2. Dán các mép đường thư bằng hồ hoặc băng dính (Không dùng dập ghim)
   Seal along the edges of this folder with clear tape or glue (Do not staple)
3. Hãy gửi thư này tại các hộp thư báo cáo bí mật hoặc bưu điện gần nhất.
   Drop your sealed folder into Confidential Box or the nearest post box.

Ghi chú/ Note (Nếu cần thiết/ If necessary)

HỆ THỐNG BÁO CÁO BÍ MẬT AN TOÀN HÀNG KHÔNG
AIR SAFETY CONFIDENTIAL REPORTING SYSTEM

Phần để nhận biết/ *Identification Strip:*

Ông/ Bà có thể cho chúng tôi biết quý danh và số điện thoại để liên lạc không?

May we contact you? If so, please provide your name and contact number:

Họ và Tên/ *Name:*	Ngày xảy ra sự việc: *Date of occurrence:* .....
Điện thoại / *Tel:*	

(Những thông tin trên được giữ bí mật / *The above information is confidential*)

✂.....

Diễn biến sự việc cần phản ánh/ *Nature of hazard or occurrence*

Theo ý kiến của Ông/ Bà làm thế nào để có thể phòng ngừa được sự việc trên?

How do you think a similar Occurrence could be prevented?

Theo ý kiến Ông/ Bà, sự việc tương tự có xảy ra lặp lại không ?

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

Không thể xảy ra		Có thể xảy ra		Đôi khi		Thường xuyên	
Improbable	☐	Probable	☐	Remote	☐	Occasional	☐

Ông/ Bà nghĩ hậu quả gì có thể xảy ra nếu sự việc này xảy ra lặp lại?

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

Không đáng kể		Nhẹ		Lớn		Nguy hiểm	
Negligible	☐	Minor	☐	Major	☐	Hazardous	☐

Ngày / *Date* ..../...../20..

APPENDIX 7.3.6.4 BAV OPERATIONS REPORT - SQA-F503

BAMBOO AIRWAYS

No

Báo cáo Khai thác / BAV Operations Report (BOR)

HƯỚNG DẪN BÁO CÁO/INSTRUCTIONS :

(1) Được sử dụng để báo cáo sự cố liên quan đến khai thác/ *Aimed to report issues relating to operations of Bamboo Airways*

(2) Báo cáo được gửi bằng cách/ *Please submit report via:*

Điền thông tin và chọn "SUBMIT" (gửi)/ *Fulfill information and press "SUBMIT":*

HOẶC/OR

SAO CHỤP và GỬI báo cáo này đến HỘP MAIL reports@bambooairways.com, flightcrewdivision@bambooairways.com và sqd.fcd@bambooairways.com hoặc cho vào hòm thư tại nơi làm việc *Scan/ Copy/ Send this form to reports@bambooairways.com, flightcrewdivision@bambooairways.com and sqd.fcd@bambooairways.com or PLACE form in the box at the office.*

SSQA và FCD sẽ thông báo đã nhận được báo cáo/ *SSQA and FCD will acknowledge receipt of your BOR via email once we received.*

CHI TIẾT VỀ SỰ CỐ / UY HIẾP AN TOÀN / THƯƠNG TẬT / ***INCIDENT/HAZARD/INJURY DETAIL :***

Ngày xảy ra/ *Date:* | Nơi xảy ra sự cố / *Location:*

Giờ địa phương/ *Local time:* | Bộ phận có liên quan đến sự cố/ *Division:*

Số tàu bay/ *AC Reg:* | Số hiệu chuyến bay/ *Sector:* | Từ/ *Departure:* | Đến/ *Destination:*

Giai đoạn bay/ *Phase:*

NỘI DUNG/ CONTENT

Mô tả sự cố (Vui lòng mô tả rõ ràng và ngắn gọn về sự cố). – **LOẠI SỰ CỐ / VỊ TRÍ / CÁ NHÂN , ĐƠN VỊ LIÊN QUAN / THỜI GIAN / LÝ DO / CÁCH THỨC** – có thể bổ sung thêm trang khác khi cần thiết./

Description *(Please give a clear and concise description of events).* - **WHAT / WHERE / WHO / WHEN / WHY / HOW** - *Additional pages can be added as necessary.*

Kiến nghị những biện pháp nhằm Đảm bảo An toàn/
Recommendation (if any):

Người báo cáo/ Reporter

APPENDIX 7.3.6.8 FATIGUE REPORT – SQA-F508

BAMBOO AIRWAYS

SQA - Division – 22nd floor, Bamboo Airways Tower, Dich Vong Ward, Cau Giay District, Hanoi Capital, Vietnam *Tel: +84-24-32333233

MẪU BÁO CÁO SỰ MỆT MỎI DÀNH CHO TỔ BAY
FATIGUE REPORT FORM FOR CREW MEMBER

Nếu muốn bảo mật nội dung báo cáo này, xin vui lòng đánh dấu vào đây/*If you wish the content of this form to remain confidential please tick here* ☐

Họ và Tên/*Full Name*	Số ID/*ID Number*	Lái chính/*Capt* ☐ Lái phụ/*FO* ☐ Giáo viên bay/*Flight Instructor* ☐ TV trưởng/*CM* ☐ Tiếp viên phó/*Section Leader* ☐ Tiếp viên/*Cabin Crew* ☐	Tuổi/*Age*

Số chuyến bay/*Flight No*...	Số đăng ký/*Registration*...	Loại tàu bay/*A/C type*: ...	Hành trình/ *Route*:...	Chặng xảy ra mệt mỏi/ *Event sector*...

Mệt mỏi xảy ra khi nào?/ *When did the event occur?*	Thời gian (ngày/tháng/năm)/ *Date (dd/MM/yyyy)*:	Giờ (địa phương hoặc UTC)/ *Time (Local or UTC)*:	Thời gian thực hiện nhiệm vụ/ *How long had you been on duty?*..... *Hours*.....*Minutes*

Anh/chị đang làm gì tại thời điểm xảy ra mệt mỏi?/ *What were you doing at the time of event?*	Ở nhà/ *At home* ☐	Trên đường đi làm/ *Driving to work* ☐	Trong khi bay/ *In flight* ☐	Trên đường về nhà/ *Driving home* ☐	Khác/ *Other* ☐

MÔ TẢ CHI TIẾT SỰ MỆT MỎI/ *FATIGUE DETAILS:*

- NỘI DUNG/ *WHAT HAPPENED*

- NGUYÊN NHÂN/ *CAUSE:*

HÀNH ĐỘNG VÀ KẾT QUẢ (hành động để kiểm soát và giảm thiểu sự mệt mỏi, VD như có giấc ngủ ngắn trong buồng lái)/ *ACTION AND RESULTS (Action taken to manage or reduce fatigue (for example, flight deck nap;))*

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Ý KIẾN ĐỀ XUẤT/*SUGGESTIONS* (Đề xuất các hành động khắc phục/ *Suggested corrective actions)*			
CÁC YẾU TỐ GÂY RA MỆT MỎI/*CONTRIBUTORY FACTORS* Đánh dấu vào những yếu tố mà Anh/Chị cho rằng gây ra mệt mỏi/*Tick all factors that you feel contributed to event/ your general concern*		**GIẤC NGỦ TRƯỚC ĐÓ/*SLEEP HISTORY***	
- Nghỉ ngơi tại khách sạn/ *Hotel rest* ☐	- Việc đi lại hàng ngày/*Commute* ☐	Anh/Chị đã ngủ trong bao lâu? *How much sleep you had:* Trong 24 giờ trước đó/ *In the preceding 24 hours:*…… Trong 48 giờ trước đó/ *In the preceding 48 hours:*……	Tổng thời gian thức của anh/chị kể từ lần ngủ cuối cùng trước khi thực hiện nhiệm vụ? *How many hours awake since you last sleep prior to duty?* ……
- Nghỉ ngơi tại nhà/ *Home rest* ☐	- Sức khỏe/*Health* ☐		
- Thời gian nghỉ ngơi theo phân công không đầy đủ/*Insufficient rostered rest time* ☐	- Sự mệt mỏi trong thời gian dài/ *Long-term fatigue* ☐		
- Sự gián đoạn lịch bay/ *Roster disruption* ☐	- Ngày làm việc dài/*Long duty day* ☐		
- Nhiệm vụ bắt đầu sớm/ *Early start time* ☐	- Sự chậm trễ/*Delay* ☐		
- Nhiệm vụ kết thúc muộn/ *Late finish time* ☐	- Các vấn đề gia đình/ *Home issues* ☐		
- Nhiệm vụ đêm/ *Night duty* ☐	- Khác (đề nghị nêu rõ)/ *Other (please specify)* ☐		
- Chuyển tiếp từ nhiệm vụ bắt đầu sớm đến nhiệm vụ kết thúc muộn ☐ /*Early to Late transition*			
- Chuyển tiếp từ nhiệm vụ kết thúc muộn sang nhiệm vụ bắt đầu sớm ☐ /*Late to Early transition*			

BAMBOO AIRWAYS

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Đánh dấu vào những ô dấu hiệu thể chất, dấu hiệu nhận thức và dấu hiệu cảm xúc mà được thể hiện rõ ràng trong 2 giờ trước khi xảy ra vụ việc/*Tick all physical, cognitive and emotional signs of fatigue that were apparent in the 2 hours leading up to the event*							
DẤU HIỆU THỂ CHẤT/ *PHYSICAL SIGNS*		**DẤU HIỆU NHẬN THỨC/*COGNITIVE SIGNS***			**DẤU HIỆU CẢM XÚC/ *EMOTIONAL SIGNS***		
Không có dấu hiệu thể chất cần lưu ý/ *No physical signs were noted* ☐		Không có dấu hiệu nhận thức cần lưu ý/ *No cognitive signs were noted* ☐			Không có dấu hiệu cảm xúc cần lưu ý/ *No emotional signs were noted* ☐		
Bồn chồn/*Fidgeting* ☐		Giảm chú ý/*Impaired attention* ☐			Im lặng và lãnh đạm hơn bình thường/ *More quiet or withdrawn than usual* ☐		
Ngứa mắt/*Rubbing eyes* ☐		Giảm trí nhớ/*Impaired memory* ☐			Thiếu sinh lực/*Lacking in energy* ☐		
Ngáp/*Yawning* ☐		Khó tập trung/*D ficulty concentrating* ☐			Thiếu động lực để làm tốt nhiệm vụ/ *Lacking in motivation to do the task well* ☐		
Mắt nháy liên *Frequent blinking* ☐		Giao tiếp giảm/*Reduced communication* ☐			Tâm trạng tiêu cực/*Negative mood* ☐		
Nhìn ngây ra/*Staring blankly* ☐		Giảm khả năng giải quyết vấn đề/ *Impaired problem solving* ☐			Hành vi dễ nổi cáu/ *Irritable or grumpy behaviour* ☐		
Mắt nháy kéo dài/*Long blinks* ☐		Giảm khả năng nhận thức tình huống/ *Impaired situational awareness* ☐			Khác/*Other*…… ☐		
Khó giữ mắt mở/ *D ficult keeping eyes open* ☐		Ngẫu nhiên hành động sai (sai sót)/ *Accidentally doing the wrong thing (error)* ☐					
Đầu gật gù/*Head nodding* ☐		Ngẫu nhiên không hành động đúng (bỏ sót)/ *Accidentally not doing the right thing (omission)* ☐					
Khác/*Other*…… ☐		Other……					
Mức độ tỉnh táo của anh/chị ngay trước khi xảy ra vụ việc (đánh dấu l lựa chọn)/*How alert did you feel immediately prior to the event (tick one)*	1 ☐ Hoàn toàn tỉnh táo/*Fully alert, wide awake*	2 ☐ Hoạt bát, một chút dễ phản ứng, nhưng không đạt mức cao nhất/*Very lively, somewhat responsive, but not at peak*	3 ☐ Một chút tỉnh táo/*Ok,somewhat fresh*	4 ☐ Một chút mệt mỏi, không hẳn tỉnh táo/*A little tired, less than fresh*	5 ☐ Mệt mỏi vừa phải, muốn nghỉ ngơi/ *Moderately tired, let down*	6 ☐ Rất mệt mỏi, khả năng tập trung khó khăn/ *Extremely tired, very d ficult to concentrate*	7 ☐ Hoàn toàn kiệt sức/ *Completely exhausted*

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BAMBOO AIRWAYS

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ĐÁNH DẤU VÀO ĐÂY NẾU CÓ TỜ ĐÍNH KÈM/ *TICK HERE IF ATTACHING SHEETS* ☐
SỐ LƯỢNG TỜ/*NUMBER OF SHEETS…*
MAIL: Báo cáo xin gửi về Ban An toàn - Chất lượng theo địa chỉ tầng 22, tòa nhà Bamboo Airways, phường Dịch Vọng, quận Cầu Giấy, t.p Hà Nội, Việt Nam hoặc qua email: reports@bambooairways.com/*By envelopes to the SQA Division – 22nd floor, Bamboo Airways Tower, Dich Vong Ward, Cau Giay District, Hanoi Capital, Vietnam or A scan c f this form to the SQA Division via* reports@bambooairways.com

APPENDIX 7.3.6.9 BIRD STRIKE REPORTING FORM

SQA - Division – 22nd floor, Bamboo Airways Tower, Dich Vong Ward, Cau Giay District, Hanoi Capital, Vietnam *Tel: +84-24-32333233

Report No.

BIRD STRIKE REPORTING FORM

BÁO CÁO SỰ CỐ CHIM VA CHẠM VÀO TÀU BAY

Send to:
Gửi tới:
Operator
Người khai thác tàu bay

Aircraft Make/model
Nhà sản xuất tàu bay/ mẫu mã
Engine Make/Model
Nhà sản xuất động cơ/ mẫu
Aircraft Registration
Số đăng ký tàu bay
Flight number
Số hiệu chuyến bay
Date Day Month Year
Ngày Ngày Tháng Năm
Route from
Điểm khởi hành
Route to
Điểm đến
Local Time
Giờ địa phương
Dawn ☐ Day ☐ Dusk ☐ Night ☐
Bình minh Ban ngày Chạng vạng Đêm
Aerodrome Name
Tên sân bay
Runway used
Đường CHC sử dụng
Location if Enroute
Vị trí trên đường bay
Height AGL
Độ cao (AGL)
Speed IAS
Tốc độ (IAS)
Phase of Flight
Giai đoạn của chuyến bay

Parked *Đỗ*	☐	En-route *Đang bay*	☐
Taxi *Lăn*	☐	Descend *Hạ độ cao*	☐
Take-off run *Chạy đà cất cánh*	☐	Approach *Tiếp cận*	☐
Climb *Lấy độ cao*	☐	Landing Roll *Chạy hãm đà*	☐

Effect on Flight:
Ảnh hưởng tới chuyến bay

None *Không*	☐
Aborted take-off *Hủy cất cánh*	☐
Precautionary landing *Hạ cánh phòng bất trắc*	☐
Engines shut down *Động cơ bị tắt*	☐
Others (specify) *Khác (nếu rõ)*	☐

Sky Condition
Điều kiện bầu trời

No Cloud *Không mây*	☐
Some Cloud *Có mây*	☐
Overcast *U ám*	☐

Precipitataion
Lượng giáng thủy

Fog *Sương mù*	☐
Rain *Mưa*	☐
Snow *Tuyết*	☐

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SQA - Division – 22nd floor, Bamboo Airways Tower, Dich Vong Ward, Cau Giay District, Hanoi Capital, Vietnam *Tel: +84-24-32333233

Part(s) of Aircraft *Phần (các phần) của tàu bay*	Struck *Va chạm*	Damaged *Hư hại*
Radome *Chóp ra đa*	☐	☐
Windshield *Kính chắn gió*	☐	☐
Nose (excluding above) *Mũi (ngoại trừ phần trên)*	☐	☐
Engine no. *Động cơ số*		
1	☐	☐
2	☐	☐
3	☐	☐
4	☐	☐
Propeller *Cánh quạt*	☐	☐
Wing/Rotor *Cánh tàu bay/ Cánh bay trực thăng*	☐	☐
Fuselage *Thân*	☐	☐
Landing gear *Càng*	☐	☐
Tail *Đuôi*	☐	☐
Lights *Đèn*	☐	☐
Other (specify) *Khác (nếu rõ)*	☐	☐

Bird speicies
Loài chim
Number of Birds
Số lượng chim

	Seen *Nhìn thấy*	Struck *Va chạm*
1	☐	☐
2-10	☐	☐
11-100	☐	☐
More *Nhiều hơn*	☐	☐

Size of Bird
Kích cỡ của chim

Small *Nhỏ*	☐
Medium *Trung bình*	☐
Large *To*	☐

Pilot Warned of Birds
Phi công có được cảnh báo về chim

Yes *Có*	☐
No *Không*	☐

Remark (describe damage, injuries and other pertinent information)
Bình luận (mô tả mức độ hư hại, mức độ tổn thương và các thông tin thích hợp)

Reported by
Báo cáo bởi
(Name, Signature)
(Tên, Chữ ký)

*Send the pictures of the bidstrike
*Gửi ảnh của sự cố chim va chạm vào tàu bay

Please send completed Bird Strike Reporting Form to:
Safety & Quality Assurance Department
EMAIL ADDRESS: reports@bambooairways.com

Form No. SQA-F509
Revision/Issue Date: 02/11.01.2021

MẪU BÁO CÁO 02:
SUPPLEMENTARY BIRD STRIKE REPORTING FORM
OPERATOR COSTS AND ENGINE DAMAGE INFORMATION
BÁO CÁO SỰ CỐ CHIM VA CHẠM VÀO TÀU BAY BỔ SUNG
THÔNG TIN VỀ CHI PHÍ KHAI THÁC VÀ HƯ HẠI ĐỘNG CƠ

A. BASIC DATA

A. THÔNG TIN CƠ BẢN

Operator.....01/02

Người khai thác.....

Aircraft Make/ Model.....03/04

Nhà sản xuất tàu bay/ mẫu mã.....

Engine Make/Model:.....05/06

Nhà sản xuất động cơ / mẫu mã.....

Aircraft Registration:.....07

Số đăng ký tàu bay.....

Date of strike : day.....month.....year.....08

Ngày xảy ra sự cố va chạm: ngày.....tháng.....năm.....

Aerodrome/ Location if known.....11/12/14

Sân bay/ Vị trí nếu biết.....

B. COST INFORMATION:

B. THÔNG TIN CHI PHÍ:

Aircraft time out of service:.....giờ 52

Thời gian tàu bay không phục vụ bay.....giờ

Estimated cost of repairs or replacement: U.S $..... 53

Chi phí ước tính cho việc sửa chữa hoặc thay thế:

Estimated other costs U.S $..... 54

Chi phí ước tính khác:

C. SPECIAL INFORMATION ON ENGINE DAMAGE STRIKES

C. CÁC THÔNG TIN ĐẶC BIỆT VỀ HƯ HẠI ĐỘNG CƠ DO SỰ CỐ VA CHẠM

Engine position number	1	2	3	4
Vị trí của động cơ				
Reason for failure/ shutdown				
Lý do hỏng / tắt máy				
	55	56	57	58
Uncontained failure	☐ A	☐ A	☐ A	☐ A

Bị văng ra không kiểm soát

Fire ☐B ☐B ☐B ☐B
Cháy

Shutdown – Vibration ☐C ☐C ☐C ☐C
Tắt - Rung

Shutdown - Temperature ☐D ☐D ☐D ☐D
Tắt – Nhiệt độ

Shutdown – Fire warning ☐E ☐E ☐E ☐E
Tắt – Cảnh báo cháy

Shutdown – Other (specify) ☐Y ☐Y ☐Y ☐Y
Tắt – Khác (nêu rõ)

.....

Shutdown – unknown ☐Z ☐Z ☐Z ☐Z
Tắt – Không biết

Estimated percentage of thrust loss* __59 __60 __61 __62
Phần trăm ước tính giảm lực đẩy

Estimated number of birds ingested __63 __64 __65 __66
Số lượng chim ước tính bị cuốn vào động cơ

Bird species.....41
Loài chim.....

*These may be difficult to determine but even estimates are useful.

* *Việc nhận diện được các loài chim có thể khó nhưng cần thiết ngay cả khi chỉ là số ước lượng.*

Send the pictures of the birdstrike
Gửi ảnh của sự cố chim va chạm vào tàu bay

Reported by.....
Báo cáo bởi.....
(Name, Signature)
(Tên, Chữ ký)

APPENDIX 7.3.6.10 DANGEROUS GOODS OCCURRENCE REPORT

BAMBOO AIRWAYS

DANGEROUS GOODS OCCURRENCE REPORT

Those boxes marked with (*) is mandatory to be filled.

Mark type of occurrence: Accident ☐ Incident ☐ Other occurrence ☐

1. Operator (*):	2. Date of occurrence (*):	3. Local time of occurrence:	
4. Flight date:	5. Flight number:		
6. Departure airport:	7. Destination airport:		
8. A/C type:	9. A/C registration:		
10. Location of occurrence (*):	10. Origin of the goods (*):		
12. Descriptions of the occurrence, including details of injury, damage, etc *(if necessary continue on the next page)*			
13. Proper shipping name (incl. technical name) (*):			14. UN/ID No. *(when known)*
15. Class/Division *(when known)*	16. Subsidiary risk	17. Parking group	18. Category (Class 7 only)
19. Type of packaging	20. Pakaging specification marking:	21. No of package:	22. Quantity (or transport index, if applicable)
23. Reference no. of Air waybill			
24. Reference no. of courier pouch, baggage tag, or passenger ticket:			
25. Name and address of shipper, agent, passenger, etc:			
26. Other relevant information (including suspected cause, any action taken):			
27. Name and title of person making report:		28. Telephone no:	
29. Company/Dept code, email or info mail code		30. Reporter ref:	
31. Address:		32.Date/Signature:	

GRH F024 Iss01 Rev00 Date 01 Jun 2019

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Description of the occurrence (continuation):

Note:

1. Any type of dangerous good occurrence must be reported, irrespective of whether the dangerous goods are contained in cargo, mail or baggage.
2. A dangerous goods accident is an occurrence associated with and related to the transport of dangerous goods which results in fatal or serious injury to a person or major property or enviromental damage. For this purpose, a serious injury is an injury which is sustained by a person in an accident and which: (a) requires hospitalisation for more than 48 hours, commencing from the time the injury was received; (b) result in a a frature of any bones (except small frature of fingers, toes or nose); (c) involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage; (d) involves injury to any internal organ; (e) involves second or third degree burns; or any burns affecting more than 5% of the body surface; or(f) involves verified exposure to infectious substances or injurious radiation. A dangerous goods accident may also be an aircraft accident; in which case the normal procedure for dangerosu goods accidents must be followed.
3. A dangerous goods incident is an occurrence, other than a dangerous goods accident, associated with and related to the transport of dangerous goods, not necessarily occurring on board an aircraft, which results in injury to a person, property or environmental damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained. Any occurrence relating to the transport of dangerous goods which seriously jeopardises the aircraft or its occupants is also deemed to constitue a danerous goods incident.
4. This form may also be used to report any occasion when undeclared or misdeclared dangerous goods are discovered in cargo or when baggage contains dagerous goods which passengers are not permitted to take on board aircraft.
5. An intial report should be dispatched within 72 hours of the occurrence, unless exceptional circumstances prevent this. The initail report may be made by any means but a written report should be sent as soon as possible, even if all the information is not available.
6. Completed reports are normally sent to the competent authority.
7. Copies of all relevant documents should be included with the report.
8. Providing it is safe to do so, all dangerous goods, packagings, documents, etc.. relating to the occurrence must be retained until after the initial report has been made
9. Requiremetns and procedures differ from state to state, it is recommended that the local competent authority be contacted in order to clarify the exact procedures to be followed in the event of a dangerous goods incident or accident.

GRH F024 Iss01 Rev00 Date 01 Jun 2019

APPENDIX 7.3.6.11 HAZARD IDENTIFICATION REPORT FORM

Unit/Department Name:
Mm/dd/yyyy

HAZARD IDENTIFICATION REPORT

1. Introduction

   Instruction: present the origin and give reason to conduct hazard identification

2. Reference
3. Describe the system

   Instruction: describe the system in detail (including human factor, not consider aircraft system) to review the scope of impact and the implementation of processes, ... analyses system in detail through the application of SHELL model to specify the component of an operating system: human – document, process – facility, equipment, tools - working environment.

4. Overview of hazard or threat

   Introduction: describe an overview of the possible hazard in the system

5. Identify the components of hazard, specific hazards

   Introduction: analyses general hazard into specific hazards, specify the content of each specific hazard.

6. Evaluate existing measures with each specific hazard which have been identified.

   Introduction: thoroughly study measures to minimize the consequence of each hazard. Present based on 3 categories: technology solutions, procedures, guidelines and regulations.

7. Suggestions and recommendations

   Introduction: raising suggestions, recommendations and actions should be reviewed and implemented.

8. Appendix:

   Introduction: documents and images to illustrate for report

Individual/unit receive report **REPRESENTATIVE OF DIVISION/DEPARTMENT**

APPENDIX 9.1.1 SAFETY INDICATORS ON AIRCRAFT OPERATIONS (SSP)

No.	Indicators	Definition	Data source
1.	Aircraft accident	Number of accidents per 10000 Circles	Accident Report
2.	Serious incidents (level B)	Number of serious incidents per 10000 Circles	Incident Report
3.	Major incidents (level C)	Number of major incidents per 10000 Circles	Incident Report
4.	Critical incidents (level D)	Number of critical incidents to be reported per 10000 Circles	Occurrence report
5.	Events (level E)	Number of events to be reported per 10000 circles	Occurrence report
6.	In-flight Engine Shutdown	Number of In-flight Engine Shutdown per 10000 Circles	Incident Report
7.	Collision between Aircraft and GSE or vehicles	Number of occurrences per 10000 departures	Incident Report
8.	Staff injured when onduty	Number of occurrences per 100 people per year	Incident Report
9.	Security Violation	Number of occurrences per 10000 Circle	Security Report
10.	Unstabilized Approaches	Number of events per 10000 Circles	FDA
11.	Findings	Number of findings per 01 audit	Audit Report

APPENDIX 9.1.2 SAFETY INDICATORS AND SAFETY PERFORMANCE INDICATORS OF BAV

No.	Indicators	Definition	Data source
I. Safety indicators: - Accepted by Civil Aviation Authority of Vietnam. - BAV shall report the measurement result of safety indicators monthly, quartely and annually. - Reviewed at the safety review meeting of ASC			
1	Aircraft Accident	Number of serious incidents per 10000 Circles	Accident Report
2	Serious incidents	Number of Serious incidents per 10000 Circles	Incident Report
3.	Inflight shutdown	Number of IFSD per 10000 Circles	Incident Report
4.	Unstabilized Approaches	Number of events per 10000 Circles	FDA
5.	Findings	Number of findings over 01 audit	Audit report
6.	Bird Strike	Number of bird strikes impact on aircraft in the operation	Incident Report
7.	Turbulence	Number of turbulence occurrences in the operation	Incident Report
8.	Lightning strike	Number of lightning strike occurrences in the operation	Incident Report
9.	RWY/TWY Incursions	Number of RWY/TWY incursion occurrences without permission in the operation	Incident report
10.	RWY/TWY Excursions.	Number of RWY/TWY excursion occurrences in the operation	Incident report
11.	Rejected Take-Off	Number of rejected take-off occurrences in the operation.	Incident report
12	ATC Related	Number of occurrences related to ATC clearance or discrepancy while executing ATC clearance of flight crew	Incident report

		or comments of ATC for Bamboo Airways' flight.	
13	TCAS-RA	Number of flights appear TCAS- RA warning in the operation.	Incident report
14	Aircraft System Malfunctions	Number of technical occurrences occur to aircraft in the operation	Incident report
15	Mandatory occurrence report (MOR)	Number of mandatory occurrence reports must be reported to CAAV in compliance with the provisions of Regulation on Aviation Safety Report	Mandatory occurrence report
16	SOP violation	Number of SOP violation reports	Investigation report, Safety audit report.
17	Security issues	Number of security issues are reported	Incident report
18	FOD	Number of FOD occurrences occurred in the operation	Incident report
19	Aircraft to GSE	Number of collisions between aircraft and GSE in the operation at the apron.	Incident report
20	Aircraft to Facilities	Number of collisions between aircraft and facilities at the apron in the operation	Incident report
21	Unsafety Dangerous Good	Number of unsafe occurrences for transport of dangerous good that occurred in operation including documentation of dangerous good as prescribed.	Incident report
22	Unsafe occurrences for loading baggage, cargo, weight and balance	- Number of occurrences occurred and rate of appearance per 1000 flights	Incident report
II. Safety performance indicators			
1. Flight operation			
a. Safety management in the cockpit			
1	Rate of event level 3 (per 1000 flights)	- Number of events level 3 per analized 1000 flights - Analyse for each type of aircraft	FDA

2	Rate of event level 2 (per 1000 flights)	- Number of events level 2 per analized 1000 flights - Analyse for each type of aircraft	FDA
3	Rate of event level 1 (per 1000 flights)	- Number of events level 1 per analized 1000 flights - Analyse for each type of aircraft	FDA
4	Flight Data Analysis	Rate of flights is analyzed by Navblue that compared with total number of flights in the operation.	FDA
b. Safety management in the cabin			
1	Significant Deviation from S.O.P.	Number of SOP Violation report per audit/inspection	CAB
2	Cabin Fire (Conventional OvenSmoke/Fire / lithium Battary Fire)	Number of event of cabin fire	CAB
3	Number of occurrence related to galley unsecured upon T/O and Landing	Number of report related to galley unsecured during TO or Landing	CAB
4	Flight with Injuried passenger or cabin crew	Rate of the flight that have cabin crew or passenger injuried	CAB
5	Cabin Crew Slide Deployment Incidents	Rate of inadvertent slide deployment	CAB
6	Fatigue - during flight	Number of fatigue report due to rostering	CAB
7	Security issues	Number of security issues reported by cabin crew	CAB
8	Insufficient ground time or flight time	Number of report related to insufficient ground time or flight time to implement properly safety, security procedures	CAB
9	Minimum number of Cabin Crew Safety/Security Report	Number of cabin crew safety report	CAB
c. Safety management in the operational control			

1	Rate of CFP Error		OCC
2	Rate of diversion due to weather		OCC
3	Errors of flight procedure and optimum flight route establishment		OCC
4	Errors of EFB software		OCC
5	Rate of EFB update errors		OCC
6	Error rate of not performing autoland in accordance with regulated time		OCC
7	Rate of captain's report on flight documents per 1000 flights		SQA
2. Maintenance			
8	Mandatory occurrence report for technical and maintenance	- Number of MORs and rate of MOR per 1000 flights - Analysis based on each type of aircraft Analysis based on areas	MOR
9	Concession in maintenance	Number of concessions and rate of concession per 1000 flights	SQA
10	Aircraft System Malfunctions in the operation	- Number of technical occurrences occurred during flight and rate of appearance per 1,000 flights - Analysis based on ATA chapter - Analysis based on false warning, true warning of flight warning system - Analysis based on each type of aircraft - Assess trend annually.	Reliability report Incident report MOR
11	Engine inflight shutdown	- Number or engine inflight shutdowns - Rate of appearance per 1000 flights.	Incident report MOR, AHM...

12	Aircraft diversions or returned due to technical malfunctions	- Number of aircraft diversions or returned due to technical malfunctions and rate of appearance per 1,000 flights - Analysis based on ATA and each type of aircraft	Incident report
3. Ground operation and cargo			
1	Aircraft to GSE	Number of collisions between aircraft and GSE in the operation at the apron.	Incident report
2	Aircraft to Facilities	Number of collisions between aircraft and facilities at the apron in the operation	Incident report
3	Unsafe occurrences for loading baggage, cargo, weight and balance	- Number of occurrences occurred and rate of appearance per 1000 flights	Incident report
4	Violation in Ramp safety regulation within equipment restraint area (7.5m)	Number of violation per 1000 flights, including but not limited to: - Approaching A/C when A/C engines has not been shut down, beacon lights has not been turned off, A/C has not been properly chocked; - GSE speed exceeds limit (5km/h); - Improper serving position; - GSE do not set brake, chocked as regulated; - Wing walker has not assigned for aircraft departure/arrival. - Improper usage/placement/storage of ULD and/or ULD are not properly locked to prevent movement during bad weather. - Other violations in airline ramp safety regulation in equipment restraint area.	Occurrence report
5	Passenger get on the wrong flight	Flight with missing/excessive pax,	Occurrence report

		discovered after A/C door closed, incident per 1000 flights, including but not limited to: - Wrongly boarded passenger in compared with checked-in flight after A/C door has closed. - Unmatched actual number of passengers onboard in compared with final PNL.	
6	Refueling occurrences for aircraft	Number of occurrences occurred and rate of appearance per 1000 flights	Occurrence report
7	Unsafety Dangerous Good	Number of unsafe occurrences for transport of dangerous good that occurred in operation including documentation of dangerous good as prescribed.	Incident report

Note:

a) All indicators are measured monthly, quarterly and annually.

b) Report of safety indicators and safety performance indicators will be presented within 13 months. Example: report of Feb 2020 will reckon up data from the beginning of Feb 2019 to the end of Feb 2020.

c) Safety indicators is accepted by CAAV, BAV shall report to CAAV monthly, quarterly and annually.

d) Safety performance indicators is not required report to CAAV. However, report of safety performance indicators shall be reported to SAGs, ASC monthly, quarterly and annually.

APPENDIX 9.4 LINE OPERATION SAFETY AUDIT

	LINE OPERATION SAFETY AUDIT (LOSA)	BAV-SQA-Fxxx Issue : 01 Revision : 00 20 Nov 2018

Observer Information

Observer ID(Emloyee number)	
Observertion Number	**#.....**

Crew Observertion number **(e.g.., "1 or 2" indicate segment one for a crew that you observered across two sefment**	**1**	**Of**	**1**

Flight Demographics

City Paris(From – To)	**SGN/HAH**			
A/C Type(e.g.., 321-200)	**A-321**			
Pilot flying(Check one)	**CAP**	**FO**	**CA**	

Time from Pushback to Gate Arrival(Hour:Minutes)			
Late Departure? **(Yes or No)**	**YES/NO**	**How Late** **(Hour:Minutes)**	

Crew Demographics

	CA	FO	CA/FE	Relief 1	Relief 1
Base					
Year' experence for all airline					
Years in position for this A/C					
Years in automated A/C *(FMC with BAVV and LNAV)*					

Crew Familiarity (Check one)	**First LEG the crew has EVER flown together**	
	First DAY the crew has EVER flown together	
	Crew has flown together before	

APPENDIX 8.2.3.2 SHELL MODEL

q) The SHELL Model is a conceptual tool used to analyse the interaction of multiple system components.

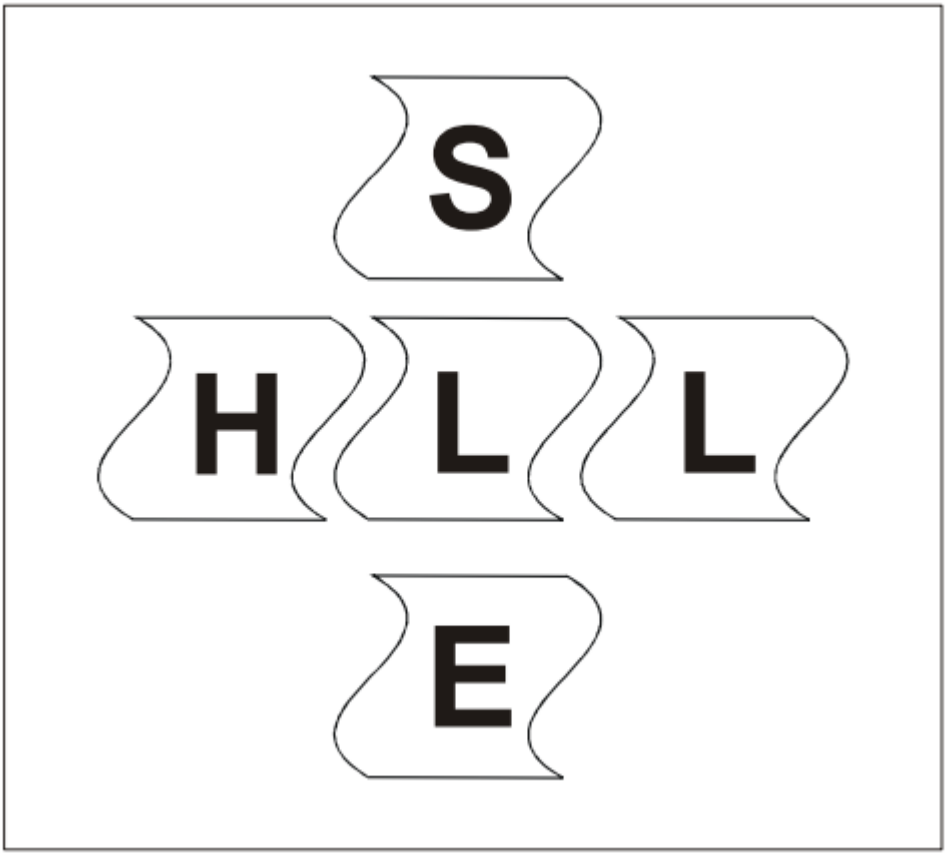
r) The SHELL Model contains the following four components:

1) Software (S): procedures, training, support, etc.;

2) Hardware (H): machines and equipment;

3) Environment (E): the working environment in which the rest of the L-H-S system must function; and

4) Liveware (L): humans in the workplace.



s) Liveware. In the centre of the SHELL model are the humans at the front line of operations. Although humans are remarkably adaptable, they are subject to considerable variations in performance. Humans are not standardized to the same degree as hardware, so the edges of this block are not simple and straight. Humans do not interface perfectly with the various components of the world in which they work. To avoid tensions that may compromise human performance, the effects of

irregularities at the interfaces between the various SHELL blocks and the central Liveware block must be understood. The other components of the system must be carefully matched to humans if stresses in the system are to be avoided. The SHELL Model is useful in visualizing the following interfaces between the various components of the aviation system:

1) Liveware-Hardware (L-H). The L-H interface refers to the relationship between the human and the physical attributes of equipment, machines and facilities. The interface between the human and technology is commonly considered with reference to human performance in the context of aviation operations, and there is a natural human tendency to adapt to L-H mismatches. Nonetheless, this tendency has the potential to mask serious deficiencies, which may become evident only after an occurrence.

2) Liveware-Software (L-S). The L-S interface is the relationship between the human and the supporting systems found in the workplace, e.g. regulations, manuals, checklists, publications, standard operating procedures (SOPs) and computer software. It includes such issues as recency of experience, accuracy, format and presentation, vocabulary, clarity and symbology.

3) Liveware-Liveware (L-L). The L-L interface is the relationship among persons in the work environment. Since flight crews, air traffic controllers, aircraft maintenance engineers and other operational personnel function in groups, it is important to recognize that communication and interpersonal skills, as well as group dynamics, play a role in determining human performance. The advent of crew resource management (CRM) and its extension to air traffic services (ATS) and maintenance operations has created a focus on the management of operational errors across multiple aviation domains. Staff/management relationships as well as overall organizational culture are also within the scope of this interface.

4) Liveware-Environment (L-E). This interface involves the relationship between the human and both the internal and external environments. The internal workplace environment includes such physical considerations as temperature, ambient light, noise, vibration and air quality. The external environment includes operational aspects such as weather factors, aviation infrastructure and terrain. This interface also involves the

relationship between the human internal environment and its external environment. Psychological and physiological forces, including illness, fatigue, financial uncertainties, and relationship and career concerns, can be either induced by the L-E interaction or originate from external secondary sources. The aviation work environment includes disturbances to normal biological rhythms and sleep patterns. Additional environmental aspects may be related to organizational attributes that may affect decision-making processes and create pressures to develop “workarounds” or minor deviations from standard operating procedures.

t) According to the SHELL Model, a mismatch between the Liveware and the other four components contributes to human error. Thus, these interactions must be assessed and considered in all sectors of the aviation system.