



## CULTURE

Values &  
Priorities

## POLICY

Top Down  
commitment

## RISK MANAGEMENT

Identify, analyse,  
control

## ASSURANCE

Monitor and  
improve

## PROMOTION

Feedback and  
training

# SMS HANDBOOK

THIRD EDITION | December 2017



## CATHAY PACIFIC GROUP SAFETY MANAGEMENT SYSTEM

For initial safety awareness training and continuous SMS education.

Email [GSR\\_Safety@cathaypacific.com](mailto:GSR_Safety@cathaypacific.com) or visit the GSORM Safety section on IntraCX for more detail.

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## The Cathay Pacific Group Safety Management System (SMS)

Safety is not a department or a meeting. It is a culture of open communication and cooperation with everyone working together every day to make our airline the safest it can be.



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# A MESSAGE FROM THE GENERAL MANAGER GROUP SAFETY & OPERATIONAL RISK MANAGEMENT

– Rick Howell

Welcome to the Cathay Pacific Group Safety Management System



Rick Howell  
GMGSORM

Thank you for taking time to read this handbook which is intended as an initial and continuous education resource on the basics of the Cathay Pacific Group Safety Management System (SMS). Safety is the responsibility of everyone so it is important that we all have an understanding of how safety and security works in the airline. Remaining safe and secure is only possible because of the constant vigilance of our staff, supported by the safety management system.

Ever mindful never to become complacent, we are always on the lookout for new hazards and threats. The SMS allows people to report hazards and threats to GSORM Safety who are eager to receive those reports and work together with you to mitigate risk and improve safety. Enjoy the handbook & stay safe,

Rick Howell,

GM Group Safety & Operational Risk Management (GSORM)

# INTRODUCTION

## SMS IS A BETTER WAY TO DO BUSINESS

The SMS is like a business plan for safety. Making safety management an integral part of the business minimizes risk and maximizes safety.



### VISION TO BE THE BEST

It is Cathay Pacific Group's vision "to be the world's best airline", and we will "put safety first" to achieve this. The Safety Management System (SMS) is key to achieving this vision.



### SMS SAFETY MANAGEMENT

This SMS handbook explains the systems for managing safety at Cathay Pacific Group. "Safety Management" is essentially "risk management"; the management of risks associated with all aspects of operations.



### TOP DOWN CEO Support

The Chief Executive Officers of Cathay Pacific and Cathay Dragon fully support the culture and the SMS. Cathay Pacific and Cathay Dragon aspire to excel in all areas and never more so than in safety.



# SAFETY CULTURE

## VALUES, BELIEFS AND PRIORITIES

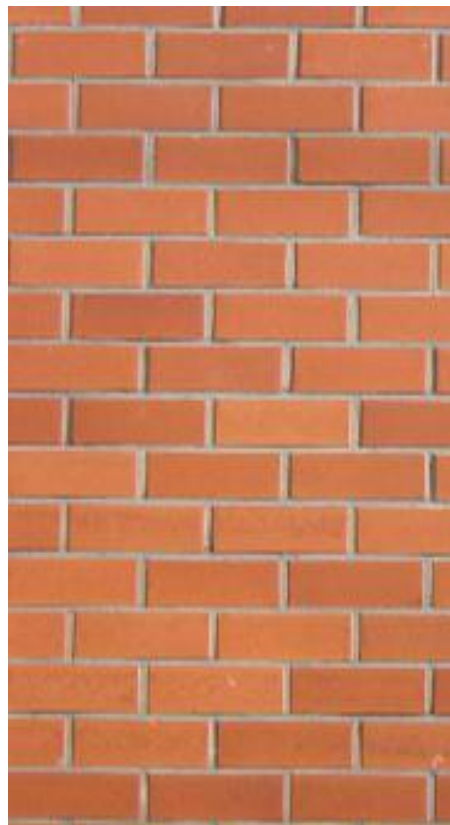
Safety is not a department or a meeting, it is a culture of open communication and cooperation with everyone working together every day to make our airline the safest it can be.



### INTEGRATED SAFETY

A good safety culture permeates the business holding the safety management system (SMS) together. It is a shared set of values and beliefs.

The SMS is most often associated with flight operations. However, a good safety culture is integrated into the beliefs and behaviours of all staff, as reflected in the way every department conducts their business.



### The cement in the SMS wall

Safety culture is the shared values of staff. It is like the cement in a wall. With no cement, whilst all the pieces are in place, the wall is not safe. It is reasonable to foresee that the wall will fall over. The wall is safe when fully cemented together.

Like cement, a fully integrated safety culture binds the bricks of the business to the SMS. Fully bonded and embedded it helps the Cathay Pacific Group operation stay strong, safe and secure.

# SAFETY CULTURE

## THE FIVE ELEMENTS

Safety is a state in which risk is reduced to an acceptable level through a continuing process of hazard identification and risk management.

### ORGANISATION CULTURE

A culture where safety comes first. Cathay Pacific Group staff make safe, sensible decisions. The SMS assesses risks and prioritises resources to address them, ensuring that safety is always the first priority.



### LEARNING CULTURE

We learn from our mistakes and those of others. Staff are provided with information on safety issues and incident outcomes so that lessons can be learnt and safety enhanced.



### JUST CULTURE

Staff will not be punished for reporting errors and mistakes so as to encourage sharing, learning and as a result safety improvement. However, behavior such as reckless willful or deliberate acts are not tolerated.



### REPORTING CULTURE

The Cathay Pacific Group encourages open reporting. All staff are encouraged to raise safety concerns and take the initiative to report hazards, threats and errors. This allows safety actions to be taken.



### INFORMED CULTURE

Awareness of the changing hazards in the operation is vital to enable staff to work continuously to identify and overcome threats to safety. Such knowledge empowers decision making to mitigate risks.

# SAFETY POLICY

## DOCUMENTS, PROCEDURES & MANUALS

The safety policy is senior management's commitment to safety.

**Safety policy**  
Everyone's responsibility

Just Informed Organisational culture Learning Reporting

Safety is our number-one priority at Cathay Pacific and Cathay Dragon, and we are fully committed to providing a safe operational and working environment. Ultimate accountability for safety rests with us as Accountable Executives. However, responsibility for safety lies with each and every one of us in the airlines. All our business partners, suppliers and contractors are all encouraged to share our primary safety goal, which is to have zero accidents or injuries. This can be achieved by:

- Developing an **Organisational Culture** where a "safety comes first" philosophy forms the basis of all our activities and where compliance with regulatory and statutory requirements is an absolute minimum requirement.
- Developing a **Just Culture** where "non-punitive reporting" is encouraged, so that staff can report deficiencies, expose hazards and raise safety concerns without fear of retribution. There should also be an understanding that reckless behaviour and deliberate violations of company standards and procedures will not be tolerated.
- Developing a **Reporting Culture** where all staff are encouraged to raise safety concerns and take the

Initiative to report hazards, threats and errors, enabling appropriate and timely safety actions to be taken.

Developing a **Learning Culture** by ensuring that we learn from our own mistakes as well as those made by others, at the same time providing timely information on safety issues to all staff.

Developing an **Informed Culture** by applying appropriate quality and risk management systems and processes as part of our decision making. Appraising new systems and procedures for any safety implications should be the norm so that we can identify and manage potential hazards, threats, and risks.

We will establish, measure and review our Safety Objectives, Safety Performance Indicators and Targets regularly, to ensure that we continually improve our management system and safety performance.

Every individual within Cathay Pacific and Cathay Dragon is responsible for ensuring that safety comes first. You have our personal commitment and support to achieve this goal.

Rupert Hogg, Chief Executive Officer  
Aigernon Yau, Chief Executive Officer - Cathay Dragon

Trust. Share. Learn.  
GSORM Safety

“The Safety Policy emphasises that all staff are stakeholders in safety management.”

A prerequisite for any airline to be considered the 'world's best' is that it operates safely. Cathay Pacific Group has established an excellent safety record, but can only maintain this by vigilantly focusing on safety as the number one priority. Responsibility for safety lies with each and every staff member. All partners, suppliers and contractors are expected to share the primary safety goal of zero

accidents or injuries. The Cathay Pacific Group Safety Policy outlines how safety will be established as a core value in order to ensure that safety always comes first. The Safety Policy is a tangible indication that senior management is committed to safety and expect high safety performance from all staff.

There are a number of policies, documents and manuals that support the Safety Policy. These include the:

- Occupational Health & Safety Policy
- Safety Reporting & Investigation Policy
- Fatigue Risk Management Policy
- Quality Policy

Safety policies, documents and manuals are living documents. They are reviewed and updated to meet the requirements of a dynamic operating environment(s).

Manuals that expand on these broad policy statements and describe procedures for achieving the policy objectives are:

- SMS Policy Manual
- SMS Procedures Manual
- Accident Investigation Manual
- Crisis Management Manual
- Quality Manual

# SAFETY MONITORING

## MONITORING & MEASURING SAFETY PERFORMANCE

Cathay Pacific Group's safety performance is monitored by collating safety reports, incidents, digital recorder and engineering data for monthly review by safety groups and committees.



### SPI SAFETY PERFORMANCE INDICATOR

A range of metrics that are selected as indicators of safety performance. Two are focused, event occurrence rate and event risk. These drive a traffic light to attract attention to an adverse trend.

### Safety Objectives

- Provide a safe workplace
- Minimise injuries & incidents
- Risk assess hazards
- Mitigate risks
- Investigate incidents
- Learn from mistakes
- Disseminate safety info
- SMS training
- Regulatory compliance
- Conform to Group standards
- A just culture
- An open reporting culture
- Flight Data Analysis
- Crisis management
- Continuously improve quality
- Continually improve the SMS



### Examples of Safety Performance Indicators

- Mandatory Occurrence Report (MOR) rate
- Safety reporting rate
- The risk level of ALL safety reports
- Flight data event rate vs severity
- Performance Acceptable Deferred Defects
- Engine In-flight Shut Down (EIFSD) rates
- Acceptance and implementation of safety recommendations
- The Lost Time Injury Frequency Rates (LTIFR)
- Line Operational Safety audit (LOSA)
- Corporate standard for contingency plans
- The Quality Audit Program – specifically:
  - Number of audits completed vs program
  - Number of non-compliance
  - Number of findings
  - Level of finding risk
  - IOSA conformance level
  - Number of observations



# ROLES IN THE SMS

## FROM THE CHIEF EXECUTIVE OFFICER TO YOU AND ME

Every individual in Cathay Pacific Group is responsible for ensuring that safety comes first.

### Chief Executive Officer

The Accountable Executives for safety performance are the CEO of Cathay Pacific & the CEO of Cathay Dragon.

The CEOs and the Board are responsible for the corporate approach to safety.

To facilitate this, Cathay Pacific Group has set up the Group Safety & Operational Risk Management (GSORM) Department for the purpose of independent safety oversight and management.



### General Manager Group Safety & Operational Risk Management / Head of Group Safety & Security

The GMGSORM and HGSS are the nominated SMS manager as stated on the Air Operator Certificate. Reporting directly to the CX CEO & KA CEO, they are accountable for the effective implementation of the Group SMS program.



### Staff and Crew

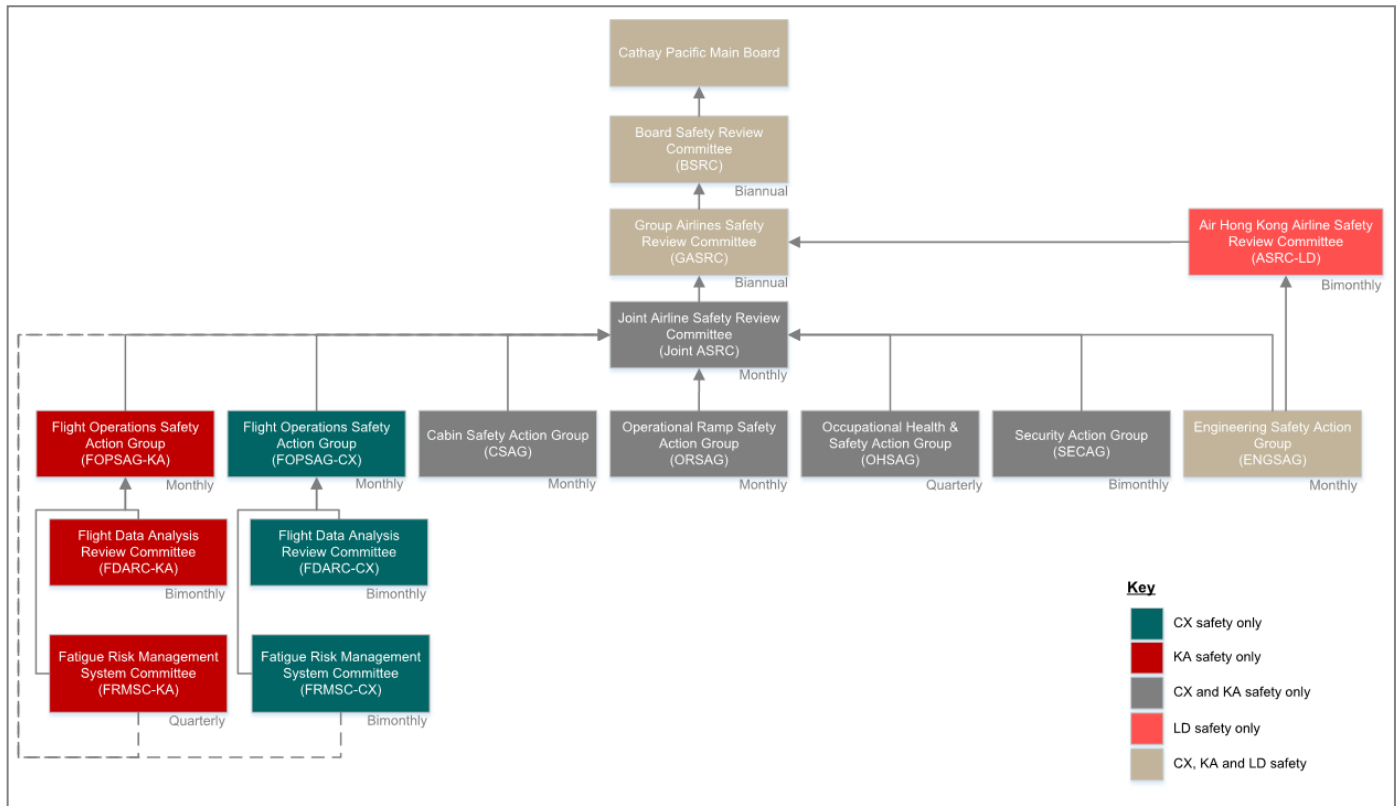
All staff and crew are reminded that 'safety is YOUR responsibility'. The Company will provide effective and appropriate training, guidelines, procedures, systems, tools and equipment to assist you to conduct your job safely, but ultimately you, as the staff and crew are the final defence in the safety system. This includes being familiar with safety policies and procedures, reporting hazards and incidents,

challenging unsafe acts, and taking ownership of safety.

People. They make an airline and it is the people who keep an airline safe. So whilst the ultimate accountability for safety rests with the Chief Executive Officer, responsibility for safety lies with each and every one of us.

# SAFETY GOVERNANCE

GSORM Safety reports directly to the Chief Executive Officers on safety matters.



## GSORM Safety

GSORM Safety provides the Chief Executive Officer with unbiased, objective safety advice.

GSORM Safety maintains a continuous watch on the safety health of the airline. In addition to monitoring Cathay Pacific Group's safety performance, the role of GSORM Safety is to promote safety, develop the SMS, identify threats and hazards, conduct investigations and make recommendations.

## Safety Committee System

Safety Action Groups: -

- Flight Operations Safety Action Group
- The Flight Data analysis Review Committee
- Engineering Safety Action Group
- Operational Ramp Safety Action Group
- Cabin Safety Action Group
- Occupational Health & Safety Action Group
- Fatigue Risk Management System Committee
- Security Action Group

The Safety Action Groups (SAGs) resolve safety issues at a functional level.

The Joint Airline Safety Review Committee (ASRC) maintains monthly oversight of the SAGs and ensures adoption of safety recommendations. The Group ASRC meets twice yearly to review safety data from group airlines. The Board Safety Review Committee (BSRC) meets twice yearly for the board to review key safety issues and the safety performance of Cathay Pacific, Cathay Dragon and Air Hong Kong.

# SAFETY REPORTING

## NO REPORT, NO PROBLEM, NO SOLUTION

A fundamental part of the SMS is open reporting of safety occurrences, threats and hazards.

# Report it!

### THE NEED TO REPORT

Every employee is called upon to contribute to safety by openly and honestly reporting any incidents, errors, threats or potential hazards. By learning from these events and taking the most appropriate action more serious accidents and injuries can be prevented.

The goal is to develop a reporting culture where all staff feel completely at ease and comfortable to raise safety concerns and take the initiative to report hazards, threats, errors and incidents enabling appropriate and timely safety actions to be taken. The reporting system provides all staff a way of bringing their safety concerns to the attention of people who can do something about them.

### Report Forms

The following forms are for reporting safety accidents, incidents and hazards in different parts of the operation. Their titles are self explanatory. Some events are required by law to be reported. A list of mandatory reportable occurrences can be found in the company operations manual part A. In addition any safety concern or hazard can be proactively reported using these forms.

- Air Safety Report (ASR)
- Air Safety Report Fatigue (ASR-F)
- Cabin Safety Report (eCSR)
- Ground Safety Report (GSR)
- Injury Report Form (IRF)
- The FOP Confidential Report
- The ENG / APT / HKIA / CGO / ISD Confidential Report
- Maintenance Standards & Quality Discrepancy Report (MSQDR)

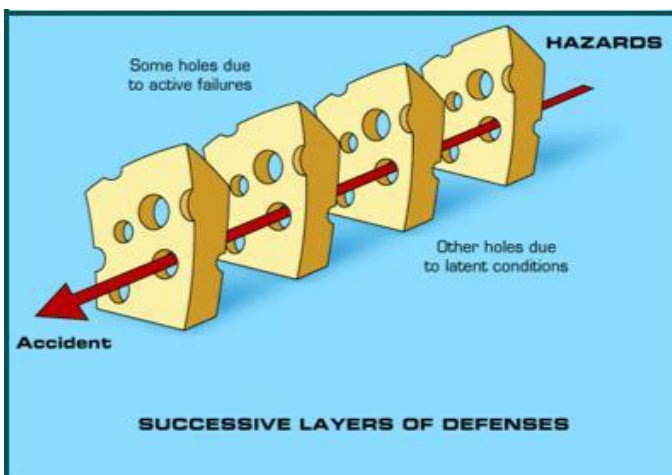
# SAFETY INVESTIGATION

## TO LEARN FROM OUR MISTAKES

The investigation process does not seek to apportion blame, but uses a 'systemic approach' to discover the underlying causal factors of the event.

### INDEPENDENT INVESTIGATIONS

GSORM Safety will assess every report received to determine if an investigation is necessary. Safety investigations aim to determine facts and contributing factors such as the latent and systemic organisational issues in James Reason's Swiss Cheese Model. Independent investigations are conducted by GSORM Safety.



### Safety Recommendations

Accidents are rare, but incidents are relatively common and are often the pre-cursors to accidents. The purpose of a safety investigation is to identify the factors which contributed to the occurrence to prevent re-occurrence. Every incident provides a valuable learning opportunity. Investigations allow us to learn from our mistakes. By investigating incidents to uncover the weaknesses in our systems, we are able to make recommendations to improve our level of safety.

# RISK MANAGEMENT

## HAZARD IDENTIFICATION

The process of identifying hazards in order to plan for, avoid, or mitigate their consequences.

### Typical Hazards

Typical hazards include design, process or procedure, communications, personnel, organisational, work environment, regulatory and human performance. In the highly regulated aviation industry most hazards are mitigated, but new hazards continue to emerge through the dynamic operating environment, changing procedures, equipment and regulations. The SMS seeks to identify existing and emerging hazards.

### Hazard Identification

Hazards may be detected by flight data monitoring, safety reports, surveys or audits (e.g. LOSA), trend analysis, training feedback, investigations, external information e.g. conferences or accident reports. New hazards may occur with new equipment, change to a procedure, organisational change and rapid expansion or contraction. Staff are encouraged to proactively report all hazards.



### HAZARD OR CONSEQUENCE

What can go wrong?

A hazard is defined as anything with the potential to cause harm. There are three types of hazard: natural, technical and economic.

Hazard: Banana skin on floor  
Consequence: Person slips

Hazard: Slippery runway  
Consequence: Runway overrun



# RISK MANAGEMENT

## RISK ASSESSMENT & MITIGATION

We should neither be reckless nor risk averse, but embrace risk and be risk sensible -  
Charles Haddon-Cave



### RISK ASSESSMENT

Risk is the chance of a hazard realising its potential, resulting in consequences. Risk management is the application of prevention and protection controls to mitigate risk. If the hazard/change identified is a non-technical or simple change there is no need to proceed further. However, if it affects operational systems or organisation, process or procedure, equipment or environment, facilities or personnel or relates to a regulatory change then it must be risk assessed.

### SEVERITY

The severity assessment asks: how bad could it be? Or what is the reasonably foreseeable worst case impact? For example, if stairs are the hazard, a fall is what can go wrong, but whether the worst case outcome is death or injury will depend on factors such as height and angle.

### LIKELIHOOD

The likelihood assessment considers three questions. How frequent is the triggering event? e.g. How often do you use the stairs? How effective are the prevention or avoidance barriers? e.g. a handrail. Finally, how effective are the recovery barriers? e.g. Is there something to break your fall? Effective controls will reduce the likelihood and weak controls will not.

### CONTROL AND REVIEW

For unacceptable risks mitigating controls will be put in place followed by a review of their effectiveness after a period of time.

# RISK MANAGEMENT

## RISK ASSESSMENT SEVERITY CRITERIA

Severity – Reasonably Foreseeable Worst Case (Potential) Outcome			
Severity	Consequence Types		
	Safety	Quality	Airworthiness
Catastrophic 5	Multiple fatalities / Severe permanent disabilities / Hull Loss	Non-existent or completely dysfunctional critical system and / or process management with damage or harm	Flight safety compromised resulting in hull loss. Design or maintenance issue resulting in aircraft / engine type certification invalidation
Major 4	Death or extensive / Severe injuries that require hospitalisation of >48 hours within 7 days of occurrence / Significant structural damage	Critical system or critical process management variance and / or reliability with damage or harm	Design or maintenance issue resulting directly in critical safety of flight degradation outside operational contingency procedures, multiple a/c CofA invalidation
Moderate 3	Injuries requiring medical treatment or hospitalization <48 hours / Extensive damage (Non-structural)	System or process variation and / or lack of reliability with damage or harm	Design, reliability or maintenance issue resulting in safety of flight degradation within operational contingency procedures or individual a/c CofA invalidation
Minor 2	Minor injuries (First aid required) / Minor damage	System or process variation and / or lack of reliability impacting on functionality	Design, reliability or maintenance issues minor impact on safety of flight
Negligible 1	No injuries / No Damage	System or process variation and / or lack of reliability but otherwise functional	Design, reliability or maintenance issues impacting schedule reliability only

Columns not shown: - Legal / Regulatory Breach / Compliance, Operational / Customer Impact, Reputation / Brand / Media, Environmental / Social Responsibility

# RISK MANAGEMENT

## RISK ASSESSMENT LIKELIHOOD CRITERIA

Likelihood Criteria		
Likelihood	Description	Indicative Frequency
<b>Almost Certain</b> <b>5</b>	Expected to occur	>90% likelihood of occurrence
<b>Likely</b> <b>4</b>	Will probably occur	60 – 90% likelihood of occurrence
<b>Possible</b> <b>3</b>	Could occur	10 – 60% likelihood of occurrence
<b>Unlikely</b> <b>2</b>	Unlikely to occur	2.5 – 10% likelihood of occurrence
<b>Rare</b> <b>1</b>	Very unlikely to occur except in exceptional circumstances	Less than 2.5% likelihood of occurrence



# RISK MANAGEMENT

## RISK MATRIX: SEVERITY vs LIKELIHOOD

Step 3 - Operational Risk Matrix						
Likelihood	Almost certain <b>5</b> [16]	LOW <16>	MODERATE <48>	HIGH <144>	ULTRA <432>	ULTRA <1296>
	Likely <b>4</b> [8]	LOW <8>	MODERATE <24>	HIGH <72>	ULTRA <216>	ULTRA <648>
	Possible <b>3</b> [4]	LOW <4>	LOW <12>	MODERATE <36>	HIGH <108>	ULTRA <348>
	Unlikely <b>2</b> [2]	INSIGNIFICANT <2>	LOW <6>	LOW <18>	MODERATE <54>	HIGH <162>
	Rare <b>1</b> [1]	INSIGNIFICANT <1>	INSIGNIFICANT <3>	LOW <9>	MODERATE <27>	HIGH <81>
[ ] = Risk Component Value < > = Risk Index Score		Negligible <b>1</b> [1]	Minor <b>2</b> [3]	Moderate <b>3</b> [9]	Major <b>4</b> [27]	Catastrophic <b>5</b> [81]
<b>Severity</b>						

# RISK MANAGEMENT

## RISK TOLERABILITY - MANAGEMENT SIGNALLING

Step 4 - Tolerability - Action urgency - Level of management oversight				
Risk Ranking	Urgency of action	Process	Level of management	Oversight
<b>ULTRA</b>	Stop. Immediate attention required. Do not process until risk is mitigated appropriately.	Specific action plan required before operation re-starts.	Board	MANCOM and Audit Committee
<b>HIGH</b>	Significant risks that require immediate attention	Risks must be understood and a high level of risk reduction and control in place before operations continue.	GM or higher	Director
<b>MODERATE</b>	Significant risks that require appropriate mitigation and monitoring.	Management responsibility identified. Specific action(s) allocated. Implementation timetable determined.	Department head	GM or higher
<b>LOW</b>	Risks are considered as not significant. Appropriate mitigation and monitoring required.	Normally be managed by routine procedures or minor mitigation.	Level B / C	Level D
<b>INSIGNIFICANT</b>	Risks are considered to be insignificant. No mitigation required.	For statistics only or minimal intervention	Level B / C	None

# SMS (SAFETY)

## UNDERSTANDING THE SMS AND YOUR ROLE IN IT

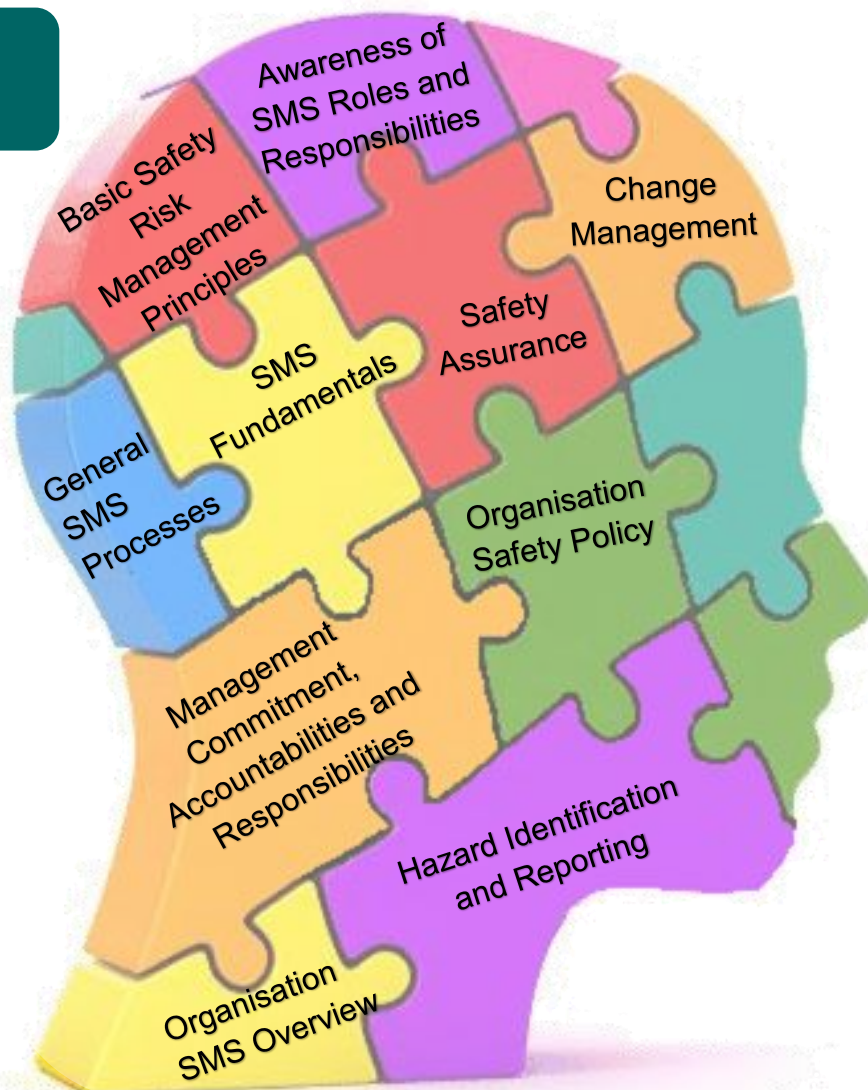
Cathay Pacific Group's commitment to provide safety training is an essential element of the SMS.

Cathay Pacific Group provides an SMS training program to staff members, commensurate with their involvement in the SMS. Training starts at induction with a basic SMS awareness course, continuous education is provided as part of promotion courses and at regular intervals in the course of employment. The aim is that all operational staff understand how safety is managed and what is their part in the company SMS. In addition they receive role specific training including Human Factors, Crew Resource Management (CRM), Threat & Error Management (TEM), Occupational Health and Safety (OH&S), manual lifting and emergency training.



### SMS LEARNING

The SMS Training is further broken down into a number of elements related to an individual's duties as they pertain to the SMS. Based on your role within the SMS, each employee will receive SMS training in all or some of the following elements, during Initial SMS Awareness Training, Continuous Knowledge Assessment or Role Specific SMS Training, as applicable.



# SAFETY PROMOTION

## DISSEMINATING SAFETY INFORMATION

Safety publications are used to continually update and educate staff on safety issues from Cathay Pacific Group and other airlines. The aim of safety publications and resources is to raise staff awareness of current safety issues.



**FRMS BULLETIN**  
An update on FRMS activities

June 2017

Welcome to the June 2017 issue of the FRMS Bulletin, a regular newsletter to provide crew with updates on FRMS activities. This and past issues of the FRMS Bulletin are available via the following link: [Flight Crew Team Site > News & Notices > FRMS Bulletin](#).

**ASR-F Statistics**

The following table details ASR-Fs submitted from January to April.

	Jan	Feb	Mar	Apr
<b>Number of ASR-Fs submitted</b>	162	111	130	128
<b>Nature of ASR-F</b>				
UFD-F	25	14	23	24
Controlled Rest	72	48	68	50
Event or Error	10	21	14	21
Other	55	28	25	33
<b>Operation</b>				
Passenger	97	66	61	83
Freighter (B747)	65	45	69	45
<b>Fleet</b>				
A350	51	25	23	47
A350-900	1	2	5	4
B747	65	45	69	45
B777	45	39	33	32

**Highlights**

- Following an all-time high number of ASR-Fs submitted in January, the ASR-F reporting rate has trended down but remains slightly above the rolling 12 month average.
- The majority of ASR-Fs were from the passenger operation, with the exception of March. The freighter/B747 reporting rate remains high, enabling freighter specific issues to be evidenced.
- 60.78% of the ASR-Fs are from the Boeing fleet and the remainder from the Airbus fleet.

**Crew iPad - Adobe Acrobat App Available**

As crew iPads may now only download apps from the CX App Store, Adobe Acrobat will be added to the CX App Store to enable crew to complete the fillable PDF ASR-F, the preferred submission format.



Refer to the SMS Procedures Manual for a full list of regular safety publications produced by GSORM Safety. The purpose is to disseminate safety information and safety articles on our own and other airlines events.

Engineering Connexions is used to feedback safety report and investigation findings to engineering staff through the Connexions on-line recurrent training process.

The flight safety notice board (located near dispatch) and the cabin safety notice board (opposite the cabin crew mail box room) are used to display safety information.

The GSORM Safety webpage on IntraCX contains a variety of safety related resources including SMS training presentations and the Flight Data Analysis Program (FDAP) reports and presentations.

The goal is to provide open communications and timely feedback on safety issues to all staff, ensuring that safety data and information is available to all staff who need it.

# SAFETY ASSURANCE

## CONTINUOUS IMPROVEMENT OF THE SMS

SMS process management functions that systematically provide confidence that organisational products/services meet or exceed safety requirements.



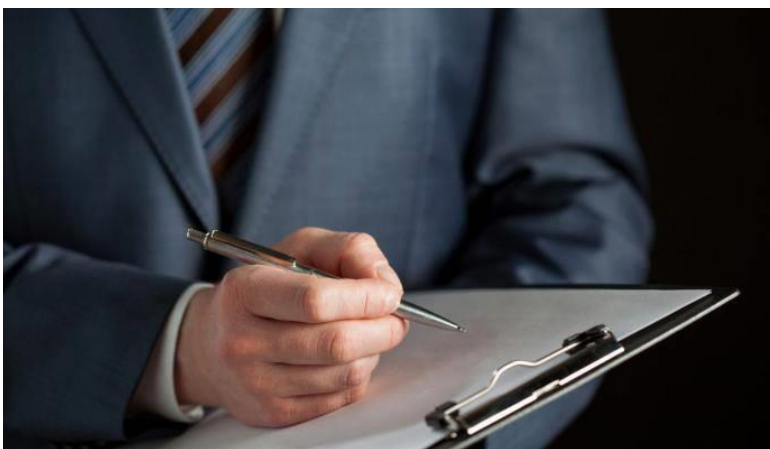
### REVIEW MONITOR & AUDIT

The review process ensures safety interventions are effective and drives improvements to the SMS. It includes risk / change management and safety performance monitoring (see relevant sections), as well as audits.



“As the company has left pioneering behind, stricter discipline and greater respect for recognized systems and procedures are necessary.”

Sydney de Kantzow  
Co-founder of Cathay Pacific Airways.



### AUDITS

- GSORM Quality Audits
- Consolidated Port Audit Programme
- Engineering audit Program
- IOSA – IATA Operational Safety Audit



### GSORM QUALITY QUALITY ALWAYS

An audit is a planned review of routine functions. Audits are proactive as they can uncover system deficiencies. GSORM Quality is responsible for the company audit programme.



# FLIGHT DATA ANALYSIS

## FLIGHT DATA ANALYSIS PROGRAM (FDAP)

The confidential de-identified process of analysing recorded flight data in order to improve the safety of flight operations.



### CONFIDENTIALITY

The FDAP is run by GSORM Safety. A formal agreement exists between GSORM Safety, FOP and the pilot's associations governing the use the flight data. FDAP is confidential and non-punitive, the agreement ensures that there are adequate safeguards to protect the data.

### Proactive Use of Data

The FDAP analyses flight data against pre-determined parameters corresponding to procedural or aircraft limits. Parameters include airspeed, vertical speed, bank angle, unstable approach, GPWS alert, rotation rate, etc.

De-identified trends are reported to FOP. This can result in changes to training programs, procedures, port pages and aircraft operation.

### Flight Data Animations

Flight data can be used to create an animation, which can be used to assist in an ASR event investigation by providing a visual representation of the flight. In addition, animations may be used for educational purposes by flight crew who request the animation of a flight which they operated. De-identified animations may also be used for educational or training purposes.

# FATIGUE MANAGEMENT

## FATIGUE RISK MANAGEMENT SYSTEM (FRMS)

Managing fatigue is not new, but complementing scheduling rules with a formal, recognised data driven system is an improvement upon reliance solely on a rule set to mitigate fatigue.



CATHAY PACIFIC CATHAY DRAGON

### Fatigue Risk Management System (FRMS) Policy

Cathay Pacific and Cathay Dragon will measure, mitigate and manage the risks associated with fatigue. The FRMS will provide a mechanism by which appropriate measures, supporting procedures and training ensure that employees are not subjected to unacceptable levels of work-related fatigue. Employees have an obligation to minimise fatigue so that they are fit for duty, and shall not perform any duty if they consider their fatigue level to be unacceptable. Employees who report excessive fatigue will be handled in accordance with the Cathay Pacific and Cathay Dragon just safety reporting and investigation policy.

  
Rupert Hogg  
Chief Executive Officer  
August 2017

  
Algernon Yau  
Chief Executive Officer-Cathay Dragon  
August 2017

Trust. Share. Learn

GSORM Safety

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### DATA DRIVEN FRMS

The FRMS is a proactive, evidence based, data driven system used to monitor and control fatigue risk to a level that is As Low As Reasonably Practical (ALARP).

More than just software, the FRMS is run by GSORM Safety with input by representatives from CMD, FOP, and the flight crew associations who are members of the FRMS Committee.

### 24 /7 Operation

Cathay Pacific Group conducts 24 hour operations across different time zones and as a consequence crew often have to work when they should naturally be sleeping. Thus, managing fatigue risk is an important part of the Cathay Pacific Group Safety Management System.

Fatigue issues should be reported via the specifically designed Air Safety Report – Fatigue (ASR-F) form. Regular FRMS Bulletins available on the GSORM Safety webpage on IntraCX and Dragonet provide updates on FRMS Activities.

# CRISIS RESPONSE

## GROUP BUSINESS RESILIENCE (GBR)

GBR is responsible for enhancing Cathay Pacific Group's ability to respond to a crises, including the possibility of an aircraft accident with fatalities. In all of its planning and its response, the Group looks to two guiding principles: 1) the moral obligation to passengers, crews and their families and, 2) the commercial obligations to shareholders and employees for continued commercial viability.

Within the Cathay Pacific Group, Business Continuity is a shared responsibility, GBR manages strategies, plans and facilitates to support business recovery for critical operational risks as well as supporting group readiness within the generic scenarios of loss of access, loss of supply, loss of systems and shortage of staff. Risk assessment and recovery for all approved and group-sanctioned IT systems and assets are managed separately by IT, providing critical loss of systems scenarios.



### CRISIS RESPONSE CENTRE

The Crisis Response Centre (CRC) located on the 5<sup>th</sup> Floor of Cathay City mobilises crisis resources: -

- Crisis Response Centre – dedicated facility with three distinct areas: Executive Command Room, Command Room and Global Crisis Communication Room
- Care Team Operations Room
- Family Call Centres
- Family Support Centres
- Corporate Business Continuity Centre – a back-up facility in the event, primary sites become unavailable.





# SECURITY

## SAFETY AND SECURITY GO HAND IN HAND

Security provides protection against willful acts. Staff must always report suspicious behavior around Cathay City, Cathay Dragon House, HKIA or other airport locations to security staff or airport police.



### GSORM SECURITY

Cathay Pacific and Cathay Dragon security functions are managed by GSORM Security, whose responsibility is to ensure that appropriate policies and procedures are in place to ensure all our staff and passengers are adequately protected.

The Cathay Pacific and Cathay Dragon security program complies with Hong Kong and international aviation security program requirements.



### SeMS

The comprehensive security program primarily deals with aviation security. A Security Management System (SeMS) complements the Security program. Together, they provide a holistic approach to ensuring that security is maintained to a high standard.



### SECURITY OPERATIONS

Based at HKIA providing 24/7 rapid response to security incidents occurring on board our aircraft and anywhere within our operations in Hong Kong. They are also responsible for investigations of security incidents around the Cathay Pacific Group network.

# GSORM SAFETY

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