



**BUDDHA AIR PVT. LTD**

# Safety Bulletin



## SMS—Integrated approach

For the airline industry, having effective safety and quality management system with necessary control framework is critical to ensure safety of the passengers and meeting regulatory compliance requirements.

Within the context of aviation, safety is the state in which the possibility of harm to person or property is reduced to, and maintained at or below, an acceptable level through a continuing process of hazard identification and safety risk management.

While elimination of aircraft accidents and/or serious incidents remains the ultimate goal, it is recognized that the aviation system cannot be completely free of hazards and associated risks. Human activities or human-built system cannot be guaranteed to be absolutely free from operational errors and their consequences.

Traditionally, stand alone and paper based safety management system are proving to be ineffective with the growing scale of operations and increasing regulatory and reporting requirements. As a result, Buddha Air seeks to adopt a system-based approach that can unify safety, quality and risk management across its operations across the whole company. Only such an approach would enable sustainable compliance with national and international regulations and mandates. Buddha air Safety and Quality management System is an integrated system approach designed for implementation and maintenance of a safety and quality management in the company that complies with regulatory as well as industry standards.

Safety management and quality management complement each other and work closely together to achieve the overall safety and compliance goals of Buddha Air. In order to achieve a synergistic and complementary relationship between them, both system’s goals, objectives and strategies are linked together. The components are integrated in a comprehensive manner which helps to promote responsibility, accountability, strategic deployment of resources, enhancement of clarity of the processes in place, and effective monitoring and analysis of the organization's activity.

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QMS	SMS
Quality	Safety
Quality assurance	Safety assurance
Quality control	Hazard identification and risk control
Quality culture	Safety culture
Compliance with requirements	Acceptable level of safety performance
Prescriptive	Performance-based
Standards and specifications	Organizational and human factors
Reactive greater than Proactive	Proactive greater than Predictive

## SMS and QMS

Quality and Safety management systems have shared common values. QMS is the foundation for SMS. Quality is essentially looking at compliance, and Safety is looking at Risk. Quality Assurance is determining gaps based on non-compliance whereas Safety Assurance is looking at weakness in the system which raises the exposure to risk. Safety Assurance is a forward looking process whereas Quality Assurance is a reward looking process.

Nevertheless both the systems have shared common values.

*QMS is the foundation for SMS. Quality is essentially looking at compliance, and Safety is looking at Risk.*

### ORA Steps

Risk factors such as the type of operation, environment, aircraft and equipment, crew training and overall operating experience are reviewed and assessed using the 6-step process:

1. Identify the hazards.
2. Asses the safety risks.
3. Analyze the risk control measures.
4. Make control decisions.
5. Implement Risk Controls.
6. Supervise and Review.

## Operational Risk Assessment (ORA)

Risk is defined as the probability and severity of accident or loss from exposure to various hazards, including injury to people and loss of resources.

Buddha Air uses an integrated method of operational risk assessment (ORA) whereby sound aeronautical decision-making is applied, as well as Go / No-go thresholds for risk assessment, in order to achieve the highest level of safety. These tools are applied during pre-flight and job planning to identify various hazards to safe operations.

Pilots, engineers, and operational managers are able to easily differentiate between a low risk flight and a high-risk flight. Identified hazards also produce a 'checklist' of discussion items which form the basis of sound and comprehensive crew resource and maintenance resource management briefings, both prior to and during the activity or mission. Mitigations may then be applied with the input of crew / team members to address hazards which require mitigation and / or whose associated risks are deemed unacceptable.

Buddha Air operational control managers follow a proactive method of quantifying and assessing various risk factors for a specific flight using an Operational Risk Assessment (ORA) tool.

For operational risk assessments that are flight-related (ORA-Flight), the pilot in command (PIC) is authorized where as for ground-related (other than for flight operations) the team lead is authorized to accept Green/Low risk assessments. This authority shall not be delegated.



*Use of PPE while working from heights*

## Preventing Falls from Heights

Aviation maintenance personnel often work above ground level where a fall could result in serious injury or death. Nevertheless, systems are available to prevent falls from height to a lower level and/or to limit injuries after such fall. Different risks are involved when maintenance personnel perform tasks from aircraft surfaces— wings, horizontal stabilizers, fuselages or engines.

When a fall arrest system is in use for maintenance personnel on an aircraft surface, operators must have plans for recovery of a worker who falls. Other cautions for fall arrest system include their possible interference with the maintenance process and their possible damage to the aircraft. If there are components at foot level they may create trip hazards, however the system eliminates the need for fall-recovery plans.

In addition to providing instruction on how to use the fall-protection system and how to wear and maintain safety harness, other topics include how to access the fall-protection system safely so that technicians are protected before they step into the work surface. Nevertheless, when appropriate fall protection equipment and appropriate training are available, many fall injuries can be prevented.

All maintenance personnel must review the assessment before commencing work from height to ensure that they have access to, what hazards could be encountered and what protective measures should be taken, what distractions might arise and how to express concerns about the situation.

Concerned issues and identified hazards can be reported to Corporate Safety Department via Occurrence Reporting forms voluntarily, anonymously or confidentially as required

## Preventing Falls from Heights

Working at height represents a common working situation for the maintenance staff with the risk of fall from the aircraft structure if the proper precautions are not followed. Falls can be from the aircraft's external structure (wings, horizontal stabilizer) or with the aircraft's internal structure including the non-pressurized section of the aft fuselage, landing gear bays, and the avionics bay. Several safety devices are available on aircraft and the AMM provides specific instructions and procedures that must be followed to prevent falls from height.

### “NO STEP” Areas

On aircraft, visible markings identify “NO STEP” areas. These are visible on the aircraft's external structure on the wings and horizontal stabilizers. “NO STEP” zones are also marked on areas inside the aircraft where there are fuselage compartment access doors. Stepping on these areas is prohibited due to risks of falling and causing injury or damaging critical areas. A description of the “NO STEP” areas for each aircraft can be found in the AMM.

### Safety Harness

Safety harness shall be used by maintenance personnel when working from height. The safety harness is composed of the harness itself and of a safety rope that has to be attached to suitable attachment point. Safety Harness' condition is inspected regularly. A validity date is displayed on each harness. If the validity date is exceeded, the harness is considered unserviceable and must not be used.



### What to Report

The following are some examples of occurrences, hazards, hazardous situations and safety concerns that need vigilance, should be normally reported. The list is by no means exhaustive.

- (a) Occurrences that require mandatory reporting as already listed in respective operation manual.
- (b) Any occurrence, situation, hazard that is likely to cause an unsafe condition, hazard to flight, injury or loss of property.
- (c) Any process or procedure that does not fulfil the requirements of the job that you are performing.
- (d) Any incident where the aircraft sustains damage requiring repair.
- (e) Any air ground incident (accident) in which someone suffers injury or death.
- (f) Any incident where the aircraft sustains damages or structural failure that adversely affects the structural strength, performance and/or flight characteristics.
- (g) Suspected Hard landings observed by flight or ground personnel.
- (h) Runway incursions.
- (i) Excessive duty times by employees.
- (j) Poor communications between operational areas.
- (k) Incorrect or inadequate procedures and failure to adhere to standard procedures.
- (l) Lack of, or out of date, technical and flight publications or charts and plates.
- (m) Inadequate tool and/or equipment control.
- (n) Occupational safety and health related concerns or events.
- (o) Relevant Deviation Reports.
- (p) Failure to obtain and/or maintain flying speed.
- (q) Failure to maintain direction control.
- (r) Improper level off.
- (s) Failure to see and avoid objects or obstructions.
- (t) Mismanagement of fuel.
- (u) Improper in-flight decisions or planning.
- (v) Misjudgment of distance and speed.
- (w) Improper operation of flight controls.
- (x) Undocumented cannibalization of aircraft parts.
- (y) Undocumented maintenance on aircraft.
- (z) Operation of ground equipment without authorization / permission. Vehicles driving without permit license.
- (aa) Lack of adequate training and recurrent training.
- (ab) No information/intimation of missing tools.
- (ac) Maintenance of aircraft without consulting maintenance data, not following SOP"s.
- (ad) Improper documentation or handling of unserviceable components. Loss of components.
- (ae) Unserviceable component and consumable items outside stores secure area.
- (af) Tire servicing.
- (ag) Improper aircraft jacking.
- (ah) Aircraft Towing.
- (ai) Transportation of large / heavy aircraft parts
- (aj) Finding and Non-Conformance Reports resulting from internal audits
- (ak) Birds menace / droppings on Aircraft during groundings.

**if any doubt exists as to whether or not something is reportable, it should be considered reportable;**

Audit findings, including findings that result in a Non-Conformance, will usually be addressed during the audit period. However, the finding and resulting corrective action must be supplied to the DCS. This will ensure that all system failures are captured and entered in the database for historical reference and future follow-up.

### The reporter should keep the following in mind.

In order not to over burden the reporting system or the employee with unnecessary paperwork, it is not required that all minor workplace hazards be addressed by means of the official reporting system. Common sense is the key to deciding what should or should not be reported. Some events or concerns are considered to be mandatory, while others are not. An unsafe practice or condition in the workplace may not require the filling out and submission of a report if:

\*It is corrected immediately and was obviously caused by a "one off" event that was not the result of a system or procedural failure. An example of this would be;

\*Someone neglecting to use the appropriate safety equipment although:

\*The equipment was available;

\*There was a policy in place that required its use;

\*The appropriate training had been provided; and

\*The person complied with the policy when reminded of his/her oversight.

The reporter should, as much as possible, offer solutions to the problem, for enhancement of the process or procedure.

If any doubt exists as to whether or not something is reportable, it should be considered reportable;

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## RCA

It is a systematic approach to find out to the true root causes of any process problems. The root cause analysis is achieved by asking why the problem occurred, and then continuing to ask why that happened until information on the fundamental cause of process element failure is gained. It is suggested to ask 'Why' at least 5 times to reach the cause of a deficiency or problem. A poor identification of the root cause of a problem usually results in the poor rectification of the symptoms of the problem, commonly known as band-aid solutions.

The general process for undertaking a root cause analysis are:

- Describe the problem your company is looking at.
- Gather data associated with the problem.
- Identify potential causes for the problem.
- Identify which causes you will remove or change in order to prevent repeat problems.
- Identify solutions that will be effective in preventing repeat problems.
- Implement changes.
- Observe changes to ensure that they have effectively eliminated the problem.

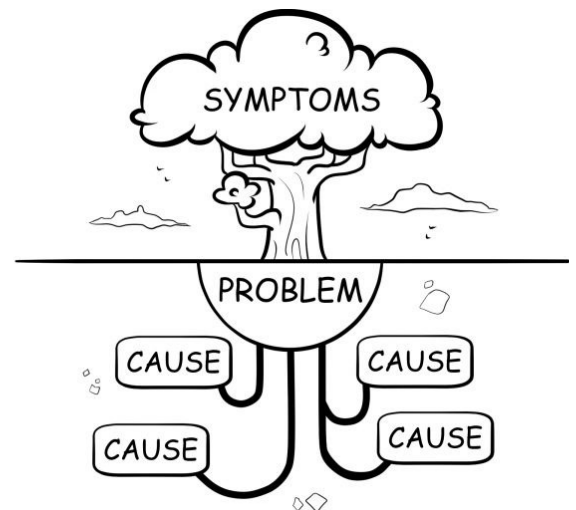
## Root Cause Analysis

The root cause analysis (RCA) is a systematic approach to find out the true root causes of problems. It is based on the belief that problems are best solved by attempting to address, correct or eliminate root causes, as opposed to merely addressing the immediately obvious symptoms. By directing corrective / preventive measures at root causes, it is more likely that problem recurrence will be prevented. However, it is recognized that complete prevention of recurrence by one single corrective action is not always possible. There may be several effective measures to be put in place to address the root cause of a problem. Thus, RCA is often considered to be a repetitive process, and tool of the continuous improvement program.

Typically, RCA is used as a reactive method to identify causes of findings (non-conformances) or events, revealing problems and assisting in solving them. In the context of

an audit, the RCA is done after a finding has been raised. However, RCA should also be used as a pro-active method to forecast or predict probable events even before they occur. RCA is based on the principle that before defining a corrective / preventive action plan, the "true" problem must be understood and the "true" root cause must be identified. This avoids masking problems and prevents ineffective actions.

There are many techniques involved in a root cause analysis any one of which may be used depending upon the nature and complexity of the issue in hand.



## Five Whys Analysis

The "5 Whys" technique is a simple question asking process or activity that organizations use to get to the root cause of a problem. It involves discussions between the various cross-functional teams to analyze "what went wrong" in a process by continuously asking the "why" question. By identifying the problem, and then asking "why" five times - getting progressively deeper into the problem, the root cause can be strategically identified and tackled.

### (a) Benefits of the 5 Whys

- Helps to identify the root cause of a problem not just provide quick-fixes to the issues at hand.
- By questioning repeatedly, you can move beyond the symptoms and find the relationship between the various causes thereby reaching a valid conclusion.
- One of the simplest tools; easy to understand and complete without statistical analysis.

### (b) When Is 5 Whys Most Useful?

- When problems involve human factors or interactions.
- In day-to-day business life.

### (c) How to Complete the 5 Whys

- Write down the specific problem. Writing the issue helps you formalize the problem and describe it completely. It also helps a team focus on the same problem.
- Ask Why the problem happens and write the answer down below the problem.
- If the answer you just provided doesn't identify the root cause of the problem that you wrote down in Step 1, ask Why again and write that answer down.
- Loop back to step 3 until the team is in agreement that the problem's root cause is identified. Again, this may take fewer or more times than five Whys.

## Understanding Weight and Balance

The primary purpose of aircraft weight and balance control is safety. A secondary purpose is to achieve the utmost in efficiency during flight. Improper loading reduces the efficiency of an aircraft from the standpoint of ceiling, maneuverability, rate of climb, speed, and fuel consumption. It can be the cause of failure to complete a flight, or even to start it. Possible loss of life and destruction of valuable equipment may result from overstressed structures or from a sudden shift in cargo and consequent change in flight characteristics.

Compliance with the weight and balance limits of any aircraft is critical to flight safety. Operating above the maximum weight limitation compromises the structural integrity of an aircraft and adversely affects its performance. Operation with the center of gravity (CG) outside the approved limits results in control difficulty.

To “feel” the aircraft response through the flight controls as being “heavier or lighter” than anticipated at take-off can result from a weight & balance inaccuracy. In fact, when the CG is out of the operational limits, the safety consequences can be far more critical than just a strange feeling.

In recent years, commercial aviation has faced multiple accidents or serious incidents related to weight and balance issues:

- Tail strike at take-off
- Unexpected pitch-up during climb
- Tail tipping
- Stall and crash

*“Compliance with the weight and balance limits of any aircraft is critical to flight safety.”*

## Hazard Identification Methodologies

The ICAO SMS Manual defines three methodologies for identifying hazards:

**-Reactive-** Through analysis of past incidents or accidents.

Hazards are identified through investigation of safety occurrences. Incidents and accidents are potential indicators of systems’ deficiencies and therefore can be used to determine the hazards that were both contributing to the event or are latent.

**-Proactive-** Through analysis of the airline’s activities.

The goal is to identify hazards before they materialize into incidents or accidents and to take the necessary actions to reduce the associated safety risks. A proactive process is based upon the notion that safety events can be minimized by identifying safety risks within the system before it fails, and taking the necessary actions to mitigate such safety

risks.

**-Predictive-** Through data gathering in order to identify possible negative future outcomes or events.

The predictive process captures system performance as it happens in normal operations to identify potential future problems. This requires continuous capturing of routine operational data in real time. Predictive process are best accomplished by trying to find trouble, not just waiting for it to show up. Therefore, predictive process strongly searches for safety information that may be indicative of emerging safety risks from a variety of sources.









GEEKY CORNER

 **BUDDHA AIR PVT. LTD**

CORPORATE SAFETY DEPARTMENT

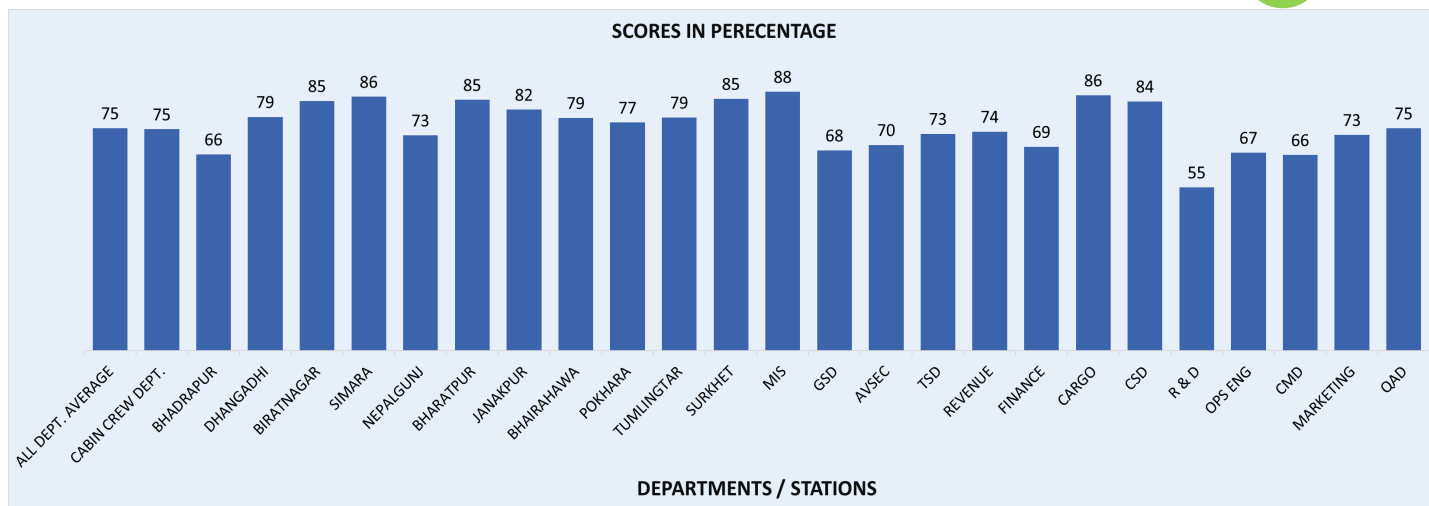
SAFETY DATABASE STATUS - 2019

OCCUR-RENCES	ASR	OCR	ESR	TOTAL
FLIGHT OP-ERATIONS	7	47	12	66
CABIN CREW	0	1	5	6
TECHNICAL	0	18	4	22
GROUND HANDLING	0	10	16	26
TRANSPORT	0	3	3	6
OCC	0	0	3	3
GSD	0	0	1	1
AVSEC	0	2	0	2
TIA - CAAN	2	25	14	41
<b>TOTAL</b>	<b>9</b>	<b>106</b>	<b>58</b>	<b>173</b>



# Safety Survey-2019

OVERALL SAFETY SCORE **75**



**BUDDHA AIR (P) LTD.**  
CORPORATE SAFETY DEPARTMENT

## Safety Survey Report- 2019

No. of Participants: 405

Departments/Divisions: Operations, Technical, Flight Crew, Cabin Crew, Compliance Monitoring, Ground Operations, QAD, GSE, MIS, GSD, CSD, AVSEC, Reservation, Revenue, Finance, Marketing, R & D Marketing, HRD & Out stations.

As per Safety Survey from August to September, 2019 of Different Departments/Divisions, an average company Safety Score is 75, which is considered as **Bureaucratic Safety Culture** and it suggest that improvements are needed to achieve **Positive Safety Culture**.

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Capt. R. K. Sharma  
Director Corporate Safety  
Buddha Air





## Buddha Air Corporate Safety Department—at your service, always.

Corporate Safety Department is setup to ensure safety of not only the organization but all the staffs, infrastructure, equipment and passengers alike.

With dedicated safety staffs at the hangar office as well as various Safety Action Group members and numerous Safety Officers set across the organization, we are here to help/assist you regarding matters of safety.

With active participation of all the employees across the organization, working in specific safety critical areas we are able to identify hazards relevant to our mode of operations and address prompt mitigative actions to ensure the risk involved are minimized to the lowest possible denominator.

With the objective to Continuously Strive for World Class Safety, the CSD is never at rest, we are al-

ways on a lookout to learn, improve upon and enhance the overall Safety Culture throughout our organization and beyond.

With this in mind we have introduced a new SMS manual—BHA SMSm 4th edition that touches upon Integrated Safety Management System to meet national as well as ICAO standards.

As such, we have identified customized training programs targeted towards specific groups keeping in mind their level of exposure and area functionalities:

1. Executive level
2. Advanced SMS training for SAG and Safety Officers
3. Basic SMS training for all employees

In view of extending our outreach throughout all of our outstations as well as various departments within our organization we have identified and properly trained area experts from all departments and identified them as our new Safety Action Group and Safety Officers.

To meet our mentioned objective, BHA has also teamed up with AOAN for the conduction of IATA SMS training diploma Course at BHA Hangar.

The courses covered as :

- SMS for airlines
- SMS implementation
- Safety Risk Management
- Safety Performance Indicator
- Emergency Response and Planning

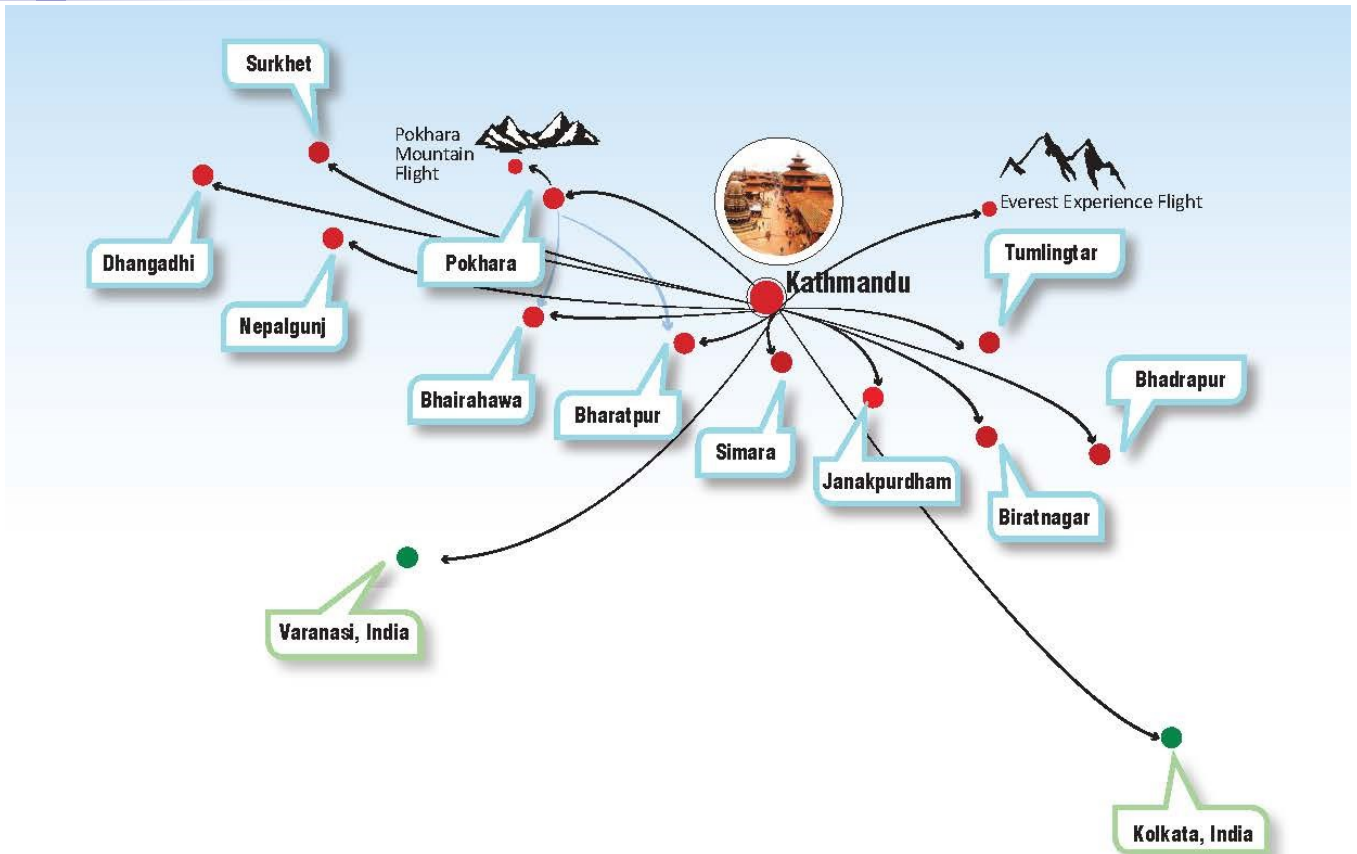
### SAFETY ACTION GROUP MEMBERS

SN	NAME	DESIGNATION	DEPARTMENT
1	Prabir Kumar Thapa	Sr. AME	Technical
2	Grishma Gurung	QA Auditor	Quality Assurance
3	Anamika Choudhary	IFS	Cabin Crew
4	Anjan Bhandari	Sr. Officer	Finance
5	Umesh Khadka	Manager	Operation
6	Ratna Rai	Sr. Manager	Ground Handling
7	Pradip K. Katuwal	Manager	Aviation Security
8	Nimesh Ghimire	Sr. Manager	Human Resource
9	Padam Ghimire	Transport Incharge	Transport
10	Manoj KC	Instructor Pilot	Operations
11	Ravi Shrestha	Instructor Pilot	Operations
12	Sailesh Rawal	Instructor Pilot	Compliance Monitoring

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23	Mr. D.B.Desar	Tech. Officer	Line Maintainance	Kathmandu		
24	Mr. D.Bindukar	Tech. Officer	Line Maintainance	Kathmandu		
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*“We must stop blaming people and start looking at our systems, we must look at how we do things that cause errors and keep us from discovering them....before they cause further injury*

## BUDDHA AIR CORPORATE SAFETY DEPARTMENT CONTACTS

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