GEN09 – OCCURRENCE INVESTIGATION

251210 1.0

SAFETY STARTS WITH ME

SAFETY STARTS WITH **ME**

Objectives of this module

- To be able to follow and perform internal accident / incident investigations in accordance with: **AP WI EST14 Accidents and Incidents Reporting Investigation and Evaluation**
- To provide the required skills for staff to investigate ground occurrences and to identify root cause(s).
- To enable staff to propose effective corrective and preventative actions.

Objectives of this module

When an accident or incident occurs, a safety investigation is required to be undertaken.

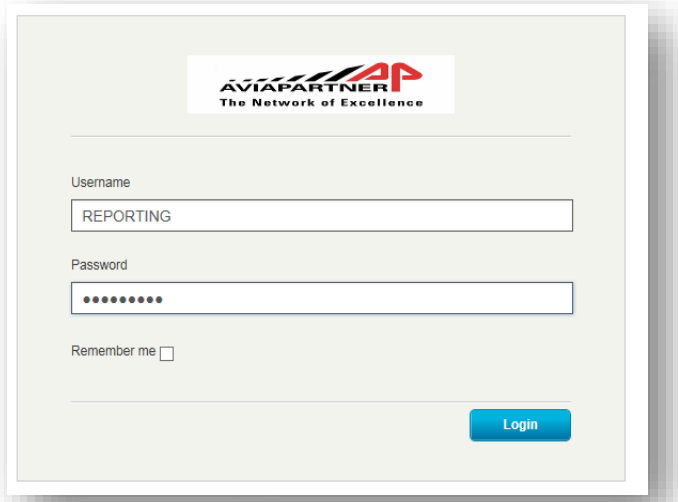
The principal objective of the investigation is to:

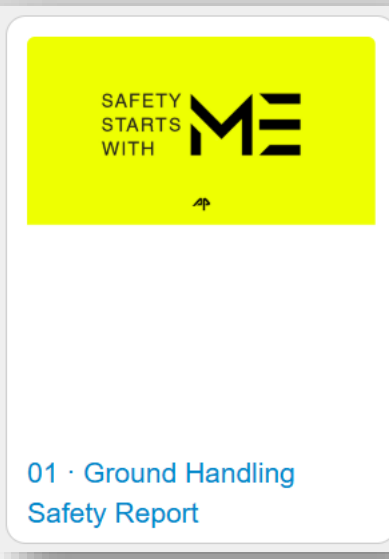
- Gather and analyse factual information
- Identify contributory factors and root causes
- Develop a corrective action plan to prevent reoccurrence
- Eliminate unacceptable risks

Occurrence Reporting

Hazard Reporting - How to report?

- Informal Reporting
- Incidence Reporting (IR/QQM)
- Anonymous reporting: via Q-Pulse, username ‘REPORTING’, password ‘reporting’
- Confidential reporting
- Q-Pulse Report: via Aviapartner systems, i-pad or webreporting on following webaddress: http://qpulse.aviapartner.aero/Reporting/Account/LogOn?ReturnUrl=/Reporting





Occurrence Reporting

Hazard Reporting – Mandatory and Voluntary Reporting

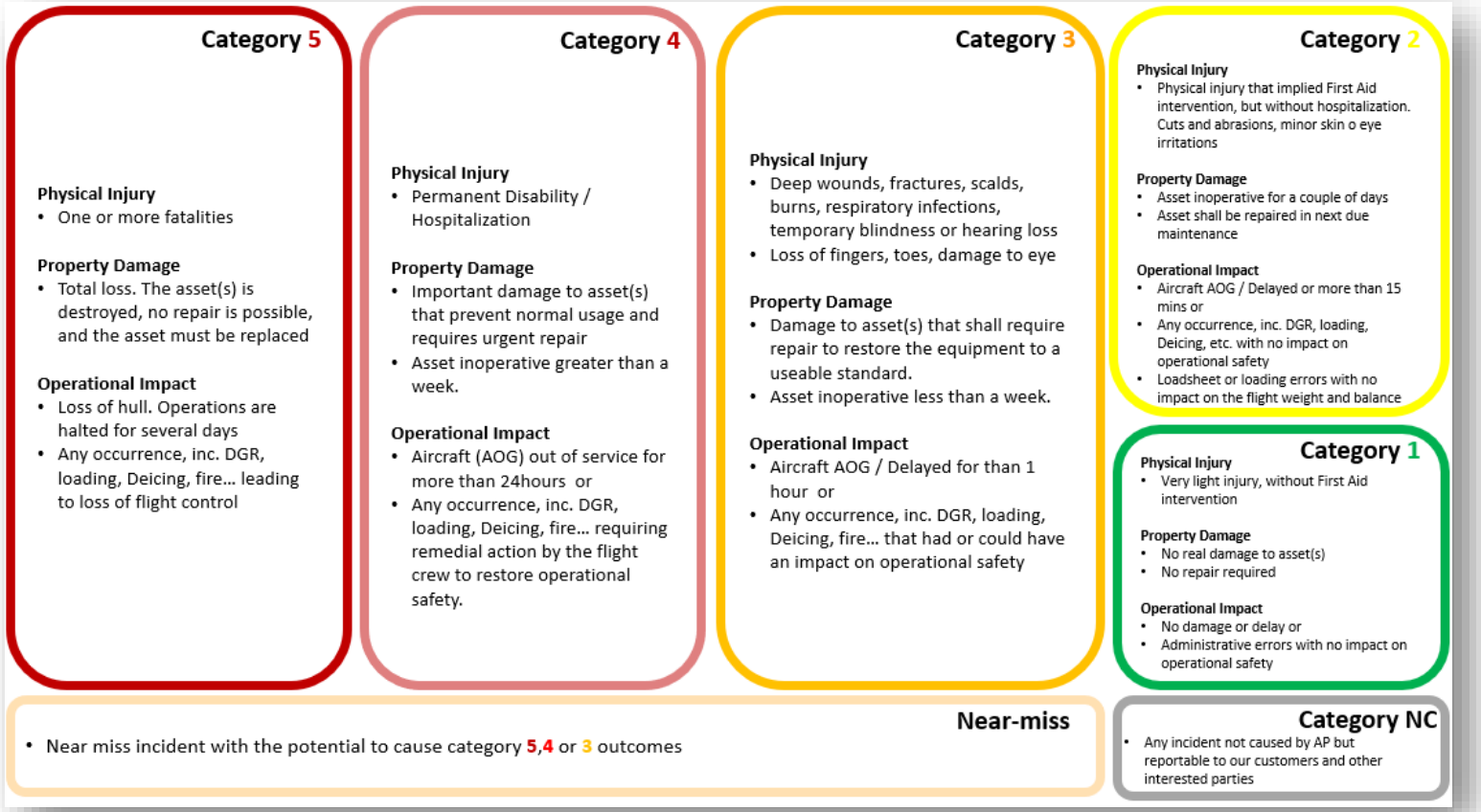
- Q-Pulse Investigation on a case-by case basis
- Damage to aircraft (CAT 3+) EST Safety First Call
- Safety incidents (CAT 1-2) Country safety managers,
- Airlines and authorities informed (As per: EST14 Accident / Incidents Reporting, Investigation and Evaluation)
- Local instructions for reporting to Civil Aviation Authorities according to EU376
- Damage to aircraft – Q-Pulse accident alert

Safety Risk Management

Hazard Reporting –

Within Aviapartner we have taken a decision to implement standard categories of incidents that are reported by our stations, primarily to improve the quality of the reporting accuracy by also to categorize occurrences by severity that will allow safety trend analysis on these categories.

To assist in the implementation, we shall provide you with some practical examples of how the categories are to be applied.



Why, when and how to investigate incidents?

Immediate Actions - In case of a Safety Occurrence and or Aircraft Damage immediately **advise**

- Team leader and loadmaster
- Airline rep and/or pilot
- Supervisor or manager
- Airport Authority

Important Note: If the occurrence has been caused by or involves Ground Servicing Equipment (GSE) **DO NOT** move the GSE until pictures have been taken to document the scene, and clearance received from an airline representative, for example airline mechanic/engineer and or pilot. **This GSE is to be quarantined** (removed from operational service), technically inspected and not used / modified or repaired until the investigation has been completed and in conjunction with any corrective and or preventative measures as outlined in the final investigation report.

Follow **AP WI EST14 Accidents and Incidents Reporting Investigation and Evaluation**

Safety First Call (CAT 3+)

For every Category 3+ and Near-Miss accident or incident, a special Safety-First conference call is organized on the first business day following the accident at 16h in the afternoon.

The call takes max. 1 hour.

- All conference calls are performed within the Microsoft Teams tool
- The call is chaired by a member of the Euro Safety Team and prepared by the station.
- Main participants in the call are the Station Manager, Ramp/Airside Manager, Safety officer, EST representative and Quality Pilot. **Their participation is mandatory.**
- Depending on needs, legal, fleet account, fleet manager and other members of the Euro safety team will also participate to the call. Optionally, the country manager.

Safety First Call (CAT 3+)

The call will follow a set scenario which you will recognize from the Qpulse investigations of accidents/incidents.

- Confirmation participants
- Minutes to be taken by QP
- Circumstances of the accident
- CCTV images available?
- Damage
- Cost?
- Training records
- Statements
- Human factor analysis
- Maintenance records
- Root cause analysis
- Immediate actions
- Corrective & Preventive actions
- Improvement suggestions
- Feedback to operations
- Communication

External Communication

Important Reminders – External Communication

No external communication without approval from Legal if:

- flight is >4h delayed
- flight is cancelled
- cost of damage is expected to be >€20k
- claim has been received

In case of doubt contact Legal Department before external communication.

External Communication

Important Reminders – External Communication

In all communication to external parties limit yourself strictly to notifying them on the **FACTS** of the accident ONLY (do NOT use words such as ‘fault’, ‘mistake’, ‘negligence’, ‘did not respect rules/procedures’, do NOT give opinions on the possible causes of the accident, etc.).

Aviapartner staff involved in the accident cannot be interviewed by any other party than Aviapartner itself or by authorities. Do not accept that the airline interviews or takes written declarations from Aviapartner staff. If reasonably justified by the circumstances, exceptions can be made subject to prior approval by the Station Manager and the interview taking place in the presence of the Station Manager

Investigation – Definitions and Terminology

Root Cause
An initiating cause(s) of a causal chain which leads to an outcome (incident or accident).
Commonly, root cause is used to describe the depth in the causal chain where an intervention could reasonably be implemented to change performance and prevent an undesirable outcome.

Contributing Factors
Anything that affects how a person does his/her job can be a contributing factor for an accident or incident.
Examples of contributing factors include: work area/environment, equipment/tools, communication, ergonomics, procedures/task/training, individual factors, leadership/supervison, and organisational.
A contributing factor can increase the likelihood or severity of an accident/incident.

Investigation – Definitions and Terminology

We distinguish between:

Accident with damage to aircraft

All damage of any kind caused by Aviapartner staff (or Aviapartner contracted staff) or Aviapartner equipment to the outer side of any aircraft but including the accidental activation of emergency escape slides and structural damage to the hold floor, ceiling and sidewalls, irrespective of the importance or the nature of the damage, delay or claim. The aircraft damage frequency is expressed in accidents per 1000 aircraft departures.

Incident with Damage to aircraft

The following accidents with aircraft will be considered as incidents for registration purposes :
All events that cause limited damage to an aircraft not requiring repair
Events that cause non-structural damage to the interior of an aircraft (cabin or hold)
Maximum estimated cost 5K
Euro Safety Team will decide in case of doubt.

SAFETY STARTS WITH ME

OCCURRENCE INVESTIGATION – GATHERING FACTS AND INTERVIEWING

Gathering facts and interviewing

Purpose of interviewing

Interviews within the safety investigation process are prime opportunities to gather information and start to piece together exactly what happened.

The purpose of the investigation is to identify physical hazards, safety system breakdowns, training needs, and behavioral failures.

Gathering facts and interviewing

Pay attention to behavior

Listen carefully

Pay attention to contradictions

Gathering facts and interviewing

Some basic rules:

- Interview witnesses individually – as soon as possible after the incident
- Try to interview where the incident took place – sometimes jogs memories
- Be a good listener – don’t interrupt
- Attain pertinent details – ask open questions (who, what, where, when and why)
- Take notes – be thorough, get their permission
- Be compassionate – witnesses could be in shock
- Use the interview as an opportunity to improve – we may be able to prevent reoccurrence

Don’t play the blame game!
Remember the purpose of the investigation is to identify physical hazards, safety system breakdowns, training needs, and behavioral failures.

Gathering facts and interviewing

Interview witnesses individually

- Employees should be interviewed as soon as possible and in private. If the witness talks or listens to others, they may become confused and subconsciously change his/her account.

Always try to interview where the incident took place

- Interviewing employees at the site of the incident can help jog their memory, well as allow them to point how-specifically where –something happened.

Do not play the blame game

- Remember the purpose of the investigation is to identify physical hazards, safety system breakdowns, training needs, and behavioral failures. Explain to employees that you are interested to uncover the facts that lead to the incident so corrective action can be taken to make the work site safer.

Be a good listener

- Do not interrupt the witness so they are comfortable in sharing their story

Gathering facts and interviewing

Attain pertinent details

- Ask open ended questions addressing the who, what, where, when and why of the incident.

Take notes

- Be thorough. If you have their permission, record the interview providing a tape copy of the interview to the witness so, if necessary, they can clarify any information they gave.

Be compassionate

- Use discretion. Remember if the incident involved a fatality (death) or serious injury the witness could be in shock and be unable to talk about what they saw at that moment. In these cases, you can always delay the interview.

Use the interview as an opportunity to improve

- Remember the point of the accident investigation is to prevent a similar accident from occurring. Solicit ideas this way employees are shown by management that their voices matter.

Gathering facts and interviewing

Example of closed questions

- How much did you learn from the interview?

Gathering facts and interviewing

Arrival Process
Brief Description: As the ground crew is connecting a tug and preparing to tow the 747 to the gate, the aircraft starts to roll. The ground crew runs for it and the 747 collides with the tug.

Note: The towing of aircraft onto stand is STANDARD practice within the Region.

https://www.youtube.com/watch?v=cMyR8U7xJO0

In groups, establish a maximum of 5 questions you would ask within an employee interview following this event?

Event reconstruction

Establish the exact sequence of events leading to the safety occurrence with its causal and contributory factors.

The output of the reconstruction phase should be a set of events that agrees with recorded information, and which unifies the views of the various persons who were involved in these events immediately before and after the occurrence.

What should happen?
Policies / Regulations / SOP´s / Training / Equipment for the task etc.

Vs

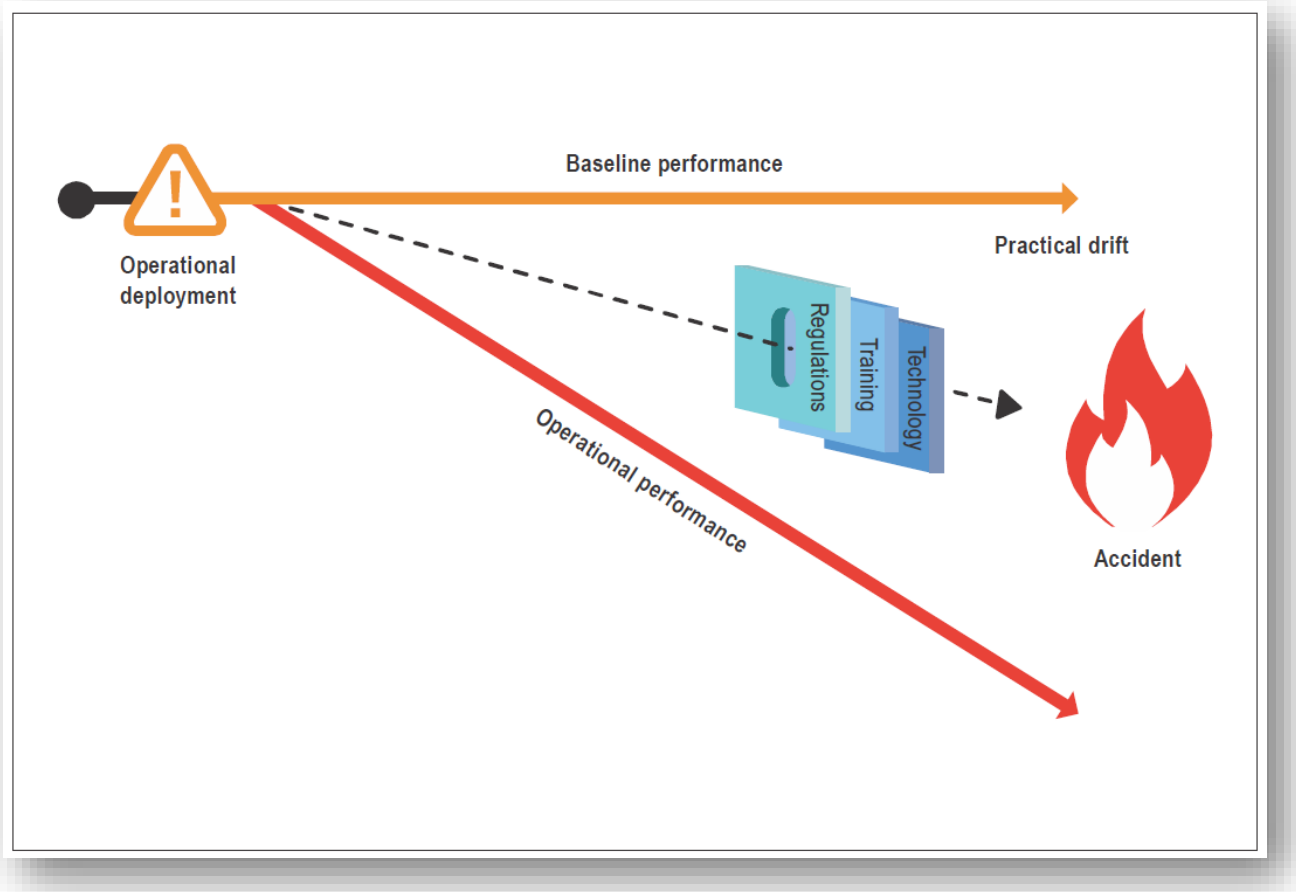
What actually happened?
Facts / Actions / Evidence and Statements etc.

What are the conclusions?
These are your findings

Accident causation

Some of the reasons for the practical drift include:

a) Technology that does not operate as predicted;
b) Procedures that cannot be executed as planned under certain operational conditions;
c) Changes to the system, including the additional components;
d) Interactions with other systems;
e) safety culture;



Accident causation

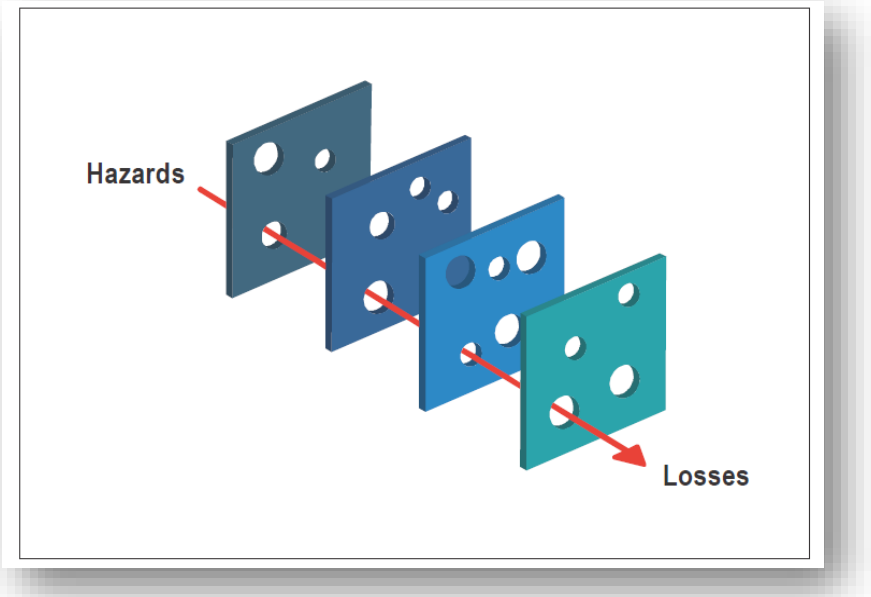
Active Failures: Active failures are actions or inactions, including errors and rule-breaking, that have an immediate adverse effect. They are viewed, with the benefit of hindsight, as unsafe acts. Active failures are associated with front-line personnel and may result in a harmful outcome.

Latent Conditions: Latent conditions can exist in the system well before a damaging outcome. The consequences of latent conditions may remain dormant for a long time. Initially, these latent conditions are not perceived as harmful, but under certain conditions may become clear when the operational level defences are breached. People far removed in time and space from the event can create these conditions. Latent conditions in the system may include those created by the safety culture; equipment

Accident causation

The **Swiss-Cheese Model** assists in understanding the interplay of organizational and managerial factors in accident causation.

Multiple defensive layers are built into the aviation system to protect against variations in human performance or decisions at all levels of the organization



SAFETY STARTS WITH ME

OCCURRENCE INVESTIGATION – IDENTIFYING AND ANALYZING CONTRIBUTORY / DIRECT FACTORS

Contributory / Direct causation analysis

To assess the risk and provide explanation of the technical and operational factors, and underlying (including organisational) factors and issues

The analysis shall provide argumentation about why the occurrence happened and enable the drawing of conclusions and identification of safety actions to eliminate or mitigate the risk
Drawing conclusion – main categories;

1. Main (direct) cause(s) and contributing factors leading to the occurrence;
2. Findings that identify additional hazards which have risk potential but have not played a direct role in the occurrence;
3. Other findings that have potential to improve the safety of operations or to resolve ambiguity or controversy issues contributed to the circumstances surrounding the occurrence.

A - Work Environment	B - Equipment/Tools	C – Communication
- Traffic Congestion - Ramp Markings - Visual Reference - Spatial Judgement - High Winds - Snow/Ice - Rain - Lightening - Slippery Surface - Trip Hazard - Noise - Dust Storm - Heat (Ambient temp.)	- Equipment Malfunction (verified) - Pre-Operation Tick list not completed - Preventive Maintenance not completed - Faulty Equipment not removed from service - Unsafe or Unreliable Equipment used - Equipment Difficult to Use - Proper Equipment Unavailable - Not Familiar with Equipment - Inappropriate Equipment Used - No Instructions Provided - Equipment Incorrectly Used - Safety Device Bypassed - Operated at Excessive Speeds - Not Trained on Equipment - Design Problem	- Shift Debriefing - Communication - Ground to/from Flight Deck - Communication, Ground to/from Ground - Communication, Supervisor to/from Agent - Incomplete Message - Confusing Message - Hand Signals

D – Ergonomics
- Repetitive/Monotonous - Forceful Exertions - Kneeling/Bending/Stooping - Twisting - Vibration - Contact Stress - Difficult to Grip - Long Duration - Heat / Cold - Awkward Position

E -Procedure/Tasks/Training

- Lacked Skill or Training
- Failed to Plan for Task
- Task too Difficult
- Deviated from Procedure
- Procedure not Documented
- Procedure not Trained
- Procedure or Training not Reinforced
- Procedure not Communicated
- Not Familiar with Procedure
- Procedure Did Not Anticipate
- Task Encourages Deviation from Procedure
- New Task or Task Change
- New Tool or Equipment

F - Individual Factors

- Physical Health (hearing/sight)
- Fatigue
- Peer Pressure
- Body Size or Strength
- Personal Event (e.g., family problem, car acc.)
- Workplace Distraction/Interruption
- Memory Lapse (Forgot)
- Situational Awareness (failed to id hazard)
- Stress
- Time Constraints
- Job/Task Experience

G - Leadership/Supervision /Organisation

- Planning/Organization of Task
- Prioritisation of Work
- Delegation of Task
- Unrealistic Attitude or Expectations
- Amount of Supervision or Availability
- Responsibility not Assigned
- Memory Lapse (Forgot)
- Failed to Communicate
- Failed to Co-ordinate
- Workload Management

H - Organisational Factors

- Quality of Support Mgt/Eng/Planning
- Company Policy
- Union Action
- Work Process
- Insufficient Staff
- Local Norms Permit At-Risk Behavior

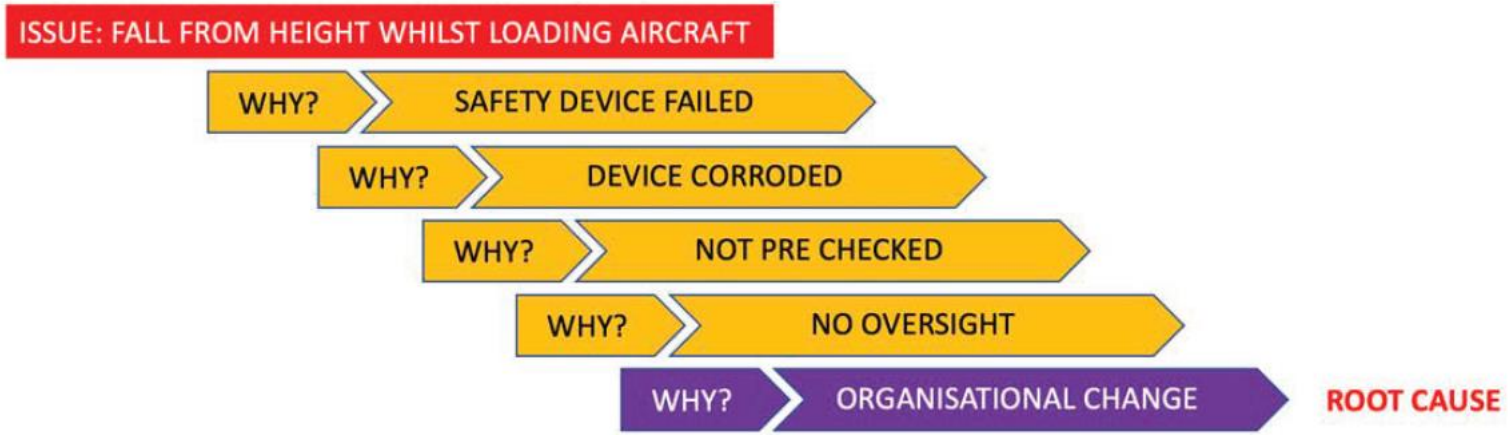
SAFETY STARTS WITH ME

OCCURRENCE INVESTIGATION – ROOT CAUSE ANALYSIS

Root cause analysis

Five whys is an iterative interrogative technique used to explore the cause-and-effect relationships underlying a particular problem.

The primary goal of the technique is to determine the root cause of a defect or problem by repeating the question Why?



Root cause analysis

Select the principal contributory factors and follow the 5 whys methodology

Work Process
Why 1? – The employee did not follow the company procedures for the use of a guide person when positioning the baggage belt to the aircraft.
Why 2? – The company procedure does not define where the guide person shall stand when guiding GSE onto and away from the aircraft.
Why 3? – The company procedure has not been updated in accordance with the last updates implemented within the training material.
Why 4? – The management of change procedure was not performed to ensure that all the relevant areas of the business were informed of changes to the company procedures.
Why 5? – The station does not have a trained person to perform and administer the management of change.

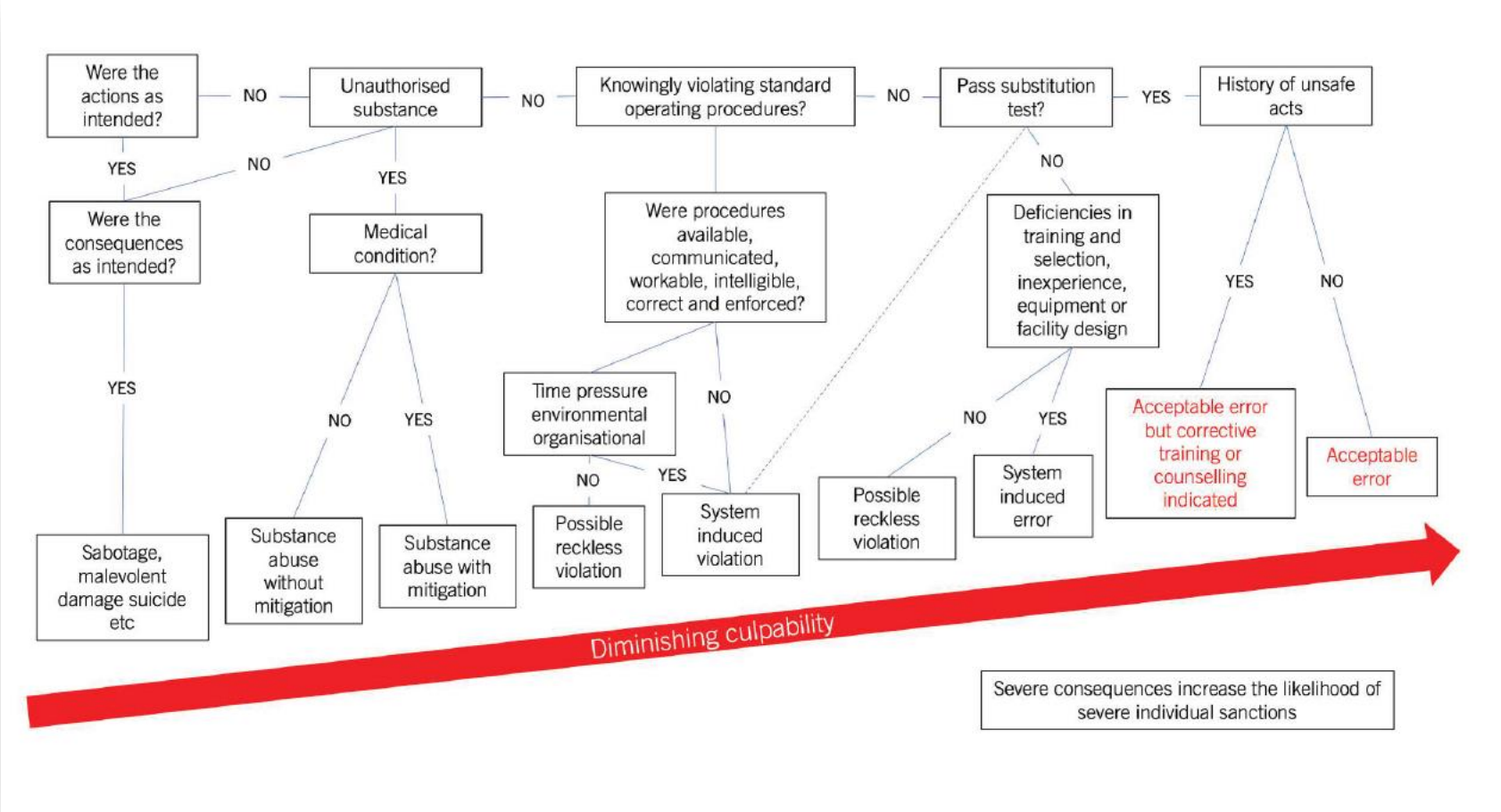
SAFETY STARTS WITH ME

OCCURRENCE INVESTIGATION – ANALYZING INDIVIDUAL BEHAVIORS

Analyzing individual behaviors

The decision tree is used when analyzing an error or adverse event that has occurred, as it may help you identify how human factors and systems issues contributed to the event.

This decision tree is particularly helpful when working toward a non-punitive "**Just Culture**" approach.



Substitution test

The Substitution Test helps to assess how a peer would have been likely to deal with the situation. Substitute for the person concerned with a peer; some someone from the same work area and possessing comparable qualifications and experience.

Then ask: ‘In an identical set of circumstances is it likely that this new individual would have behaved any differently?’

If the answer is probably not then apportioning blame has no material role to play, other than to obscure systemic deficiencies and to blame one of the victims.

Substitution test

Pass substitution test:

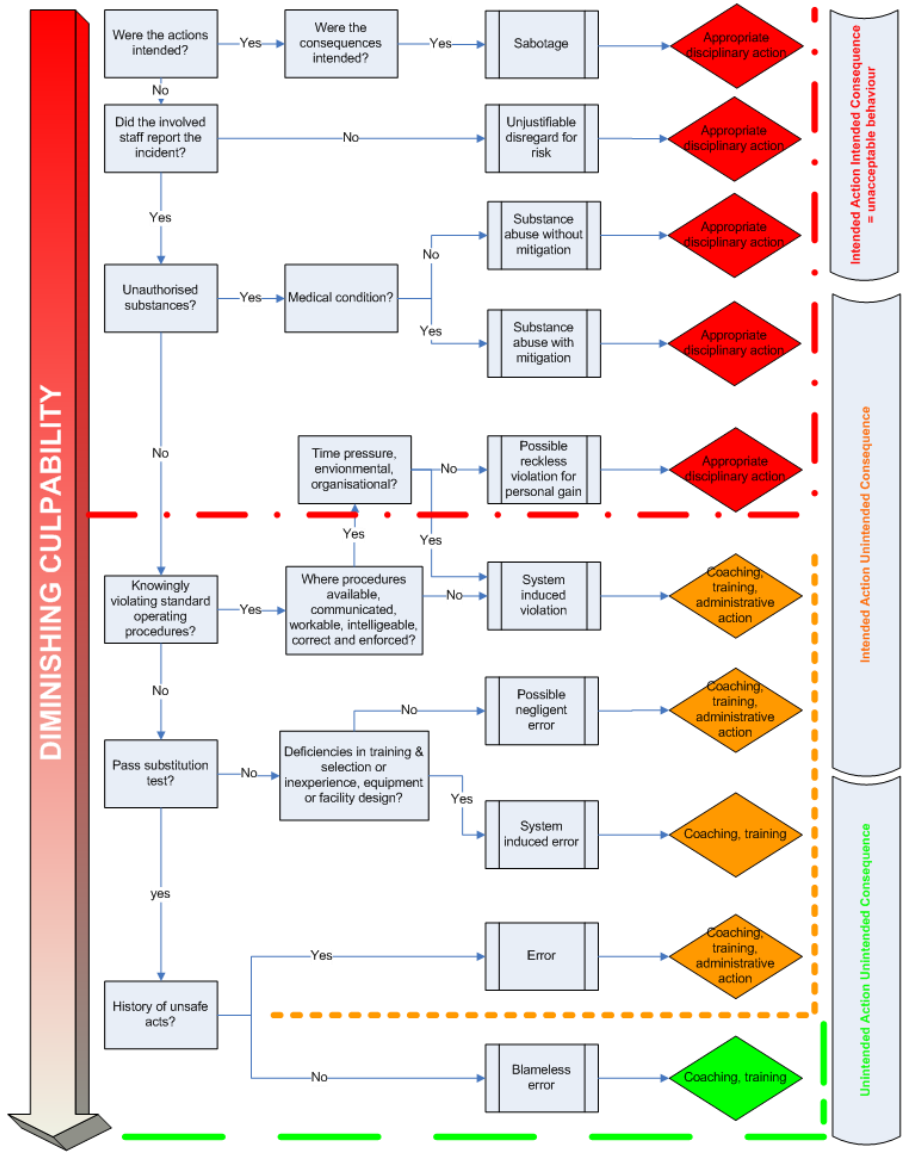
Would three (3) other individuals with similar experience and in a similar situation and environment act in the same manner as the person being evaluated?

If the answer is "**Yes**": The problem is not the individual, but more likely the environment that would lead most individuals to that action. (Proceed to the question about a history of unsafe acts.)

If the answer is "**No**": If similarly experienced individuals would not have acted in a similar manner, it's more likely that the individual being evaluated is more culpable/accountable and in need of action — whether it is counseling or removal or whatever. (Proceed to the question about deficiencies in training and selection or inexperience.)

Just Culture

Just Culture - Incident / Accident investigation process to ensure the “Just Culture” principles are maintained



SAFETY STARTS WITH ME

OCCURRENCE INVESTIGATION – DEFINING CORRECTIVE AND PREVENTIVE ACTIONS

Defining Corrective and Preventive actions

Corrective and preventive actions are there to correct the identified issues and to reasonably ensure that the probably of re-occurrence is reduced

Corrective Actions = Correct the immediate situation / activity, to bring the process or situation back to its correct state.

Preventive Actions = Longer-term actions taken to reasonably reduce the possibility of the issue to re-occur in the future

Both the corrective and preventive actions should address the issues established during the “Root Cause” analysis.

Here is an example:

Defining Corrective and Preventive actions

E -Procedure/Tasks/Training
Why 1? – The employee did not follow the company procedures for the use of a guide person when positioning the baggage belt to the aircraft.
Corrective Action: Once revised communicate to all the relevant staff members the correct procedures to follow for the guidance of GSE onto and away from aircraft.
Preventive Action: Review and revise the company procedure to be communicated to the relevant staff members.
Why 2? – The company procedure does not define where the guide person shall stand when guiding GSE onto and away from the aircraft.
Corrective Action: As above, Once revised communicate to all the relevant staff members the correct procedures to follow for the guidance of GSE onto and away from aircraft.
Preventive Action: Establish and clarify within the revised company procedure the exact positioning for the GSE guides person when positioning GSE onto and away from the aircraft.
Why 3? – The company procedure has not been updated in accordance with the last updates implemented within the training material.
Corrective Action: Review with the training department the current version and ensure that the procedural differences are corrected.
Preventive Action: Establish regular (monthly, quarterly) meeting reviews with the training department and the safety department to ensure all changes to company procedures are implemented effectively and accurately.

Defining Corrective and Preventive actions

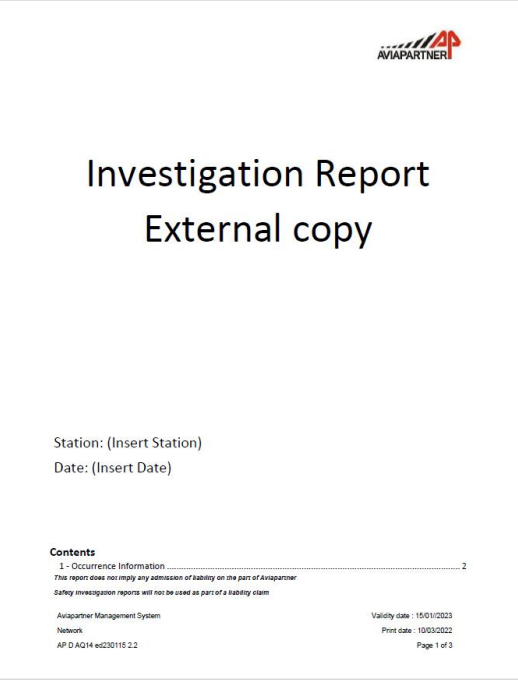
Why 4? – The management of change procedure was not performed to ensure that all the relevant areas of the business were informed of changes to the company procedures.
Corrective Action: Communicate to all the relevant staff members the procedure to follow when operational or organizational changes are made.
Preventive Action: Include within the regular management meetings the coverage of operational or operational change to ensure that changes are detected and actioned in accordance with the company procedure for the management of change.
Why 5? – The station does not have a trained person to perform and administer the management of change.
Corrective Action: Identify a local resource to be trained to manage the local / regional change management program when changes are implemented within the operation or the organization.
Preventive Action: Include within the regular management meetings the coverage of operational or operational change to ensure that changes are detected and actioned in accordance with the company procedure for the management of change.

SAFETY STARTS WITH ME

OCCURRENCE INVESTIGATION – DRAFT AND FINAL REPORTS

Draft and Final reports

All internal investigations are managed and documented within the Q-Pulse system.
External reports are to be documented on the following template.



AVIAPARTNER

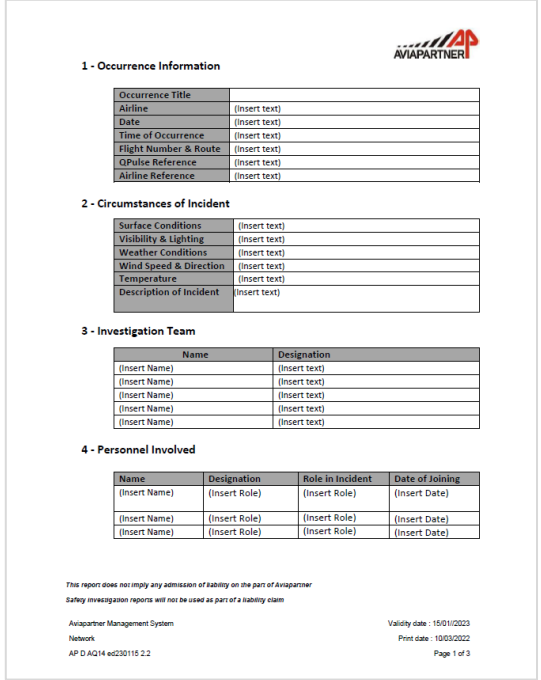
Investigation Report
External copy

Station: (Insert Station)
Date: (Insert Date)

Contents

This report does not imply any admission of liability on the part of Aviapartner

Safety investigation reports will not be used as part of a liability claim



AVIAPARTNER

1 - Occurrence Information

Occurrence Title	
Airline	(Insert text)
Date	(Insert text)
Time of Occurrence	(Insert text)
Flight Number & Route	(Insert text)
QPulse Reference	(Insert text)
Airline Reference	(Insert text)

2 - Circumstances of Incident

Surface Conditions	(Insert text)
Visibility & Lighting	(Insert text)
Weather Conditions	(Insert text)
Wind Speed & Direction	(Insert text)
Temperature	(Insert text)
Description of Incident	(Insert text)

3 - Investigation Team

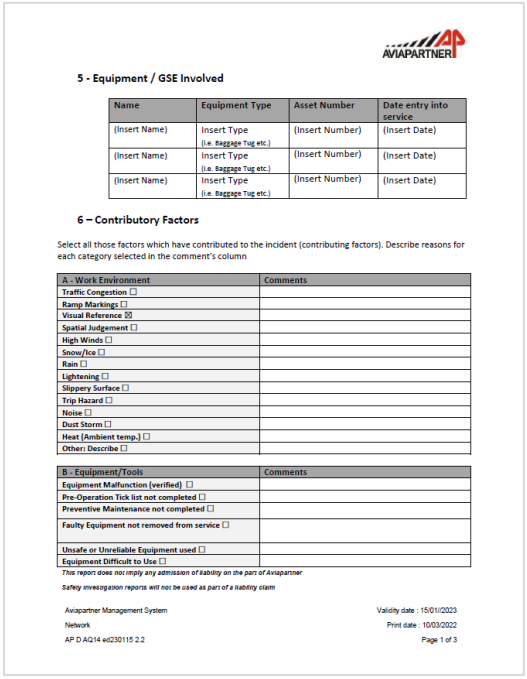
Name	Designation
(Insert Name)	(Insert text)
(Insert Name)	(Insert text)
(Insert Name)	(Insert text)
(Insert Name)	(Insert text)
(Insert Name)	(Insert text)

4 - Personnel Involved

Name	Designation	Role in Incident	Date of Joining
(Insert Name)	(Insert Role)	(Insert Role)	(Insert Date)
(Insert Name)	(Insert Role)	(Insert Role)	(Insert Date)
(Insert Name)	(Insert Role)	(Insert Role)	(Insert Date)

This report does not imply any admission of liability on the part of Aviapartner

Safety investigation reports will not be used as part of a liability claim



AVIAPARTNER

5 - Equipment / GSE Involved

Name	Equipment Type	Asset Number	Date entry into service
(Insert Name)	Insert Type (i.e. Baggage Tug etc.)	(Insert Number)	(Insert Date)
(Insert Name)	Insert Type (i.e. Baggage Tug etc.)	(Insert Number)	(Insert Date)
(Insert Name)	Insert Type (i.e. Baggage Tug etc.)	(Insert Number)	(Insert Date)

6 – Contributory Factors

Select all those factors which have contributed to the incident (contributing factors). Describe reasons for each category selected in the comment's column

A - Work Environment	Comments
Traffic Congestion ☐	
Ramp Markings ☐	
Visual Reference ☒	
Spatial Judgement ☐	
High Winds ☐	
Snow/Ice ☐	
Rain ☐	
Lightening ☐	
Slippery Surface ☐	
Trip Hazard ☐	
Noise ☐	
Dust Storm ☐	
Heat (Ambient temp.) ☐	
Other: Describe ☐	

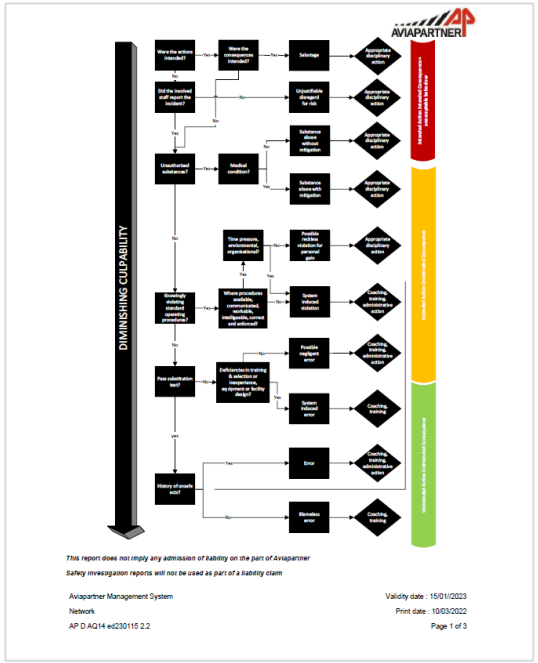
B - Equipment/Tools	Comments
Equipment Malfunction (verified) ☐	
Pre-Operation Tick list not completed ☐	
Preventive Maintenance not completed ☐	
Faulty Equipment not removed from service ☐	
Unsafe or Unreliable Equipment used ☐	
Equipment Difficult to Use ☐	

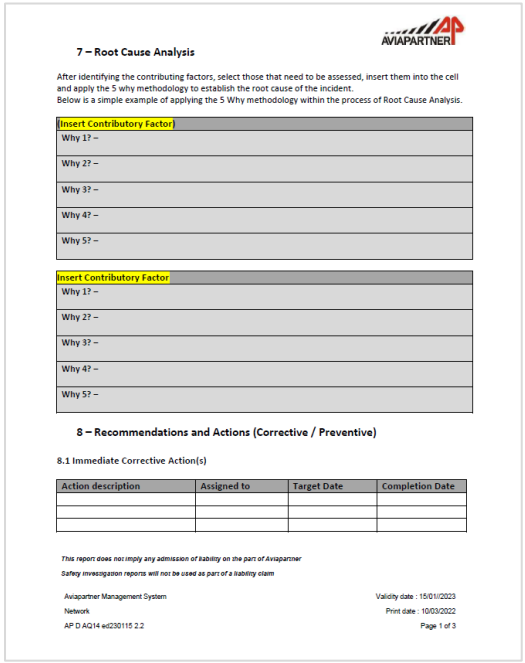
This report does not imply any admission of liability on the part of Aviapartner

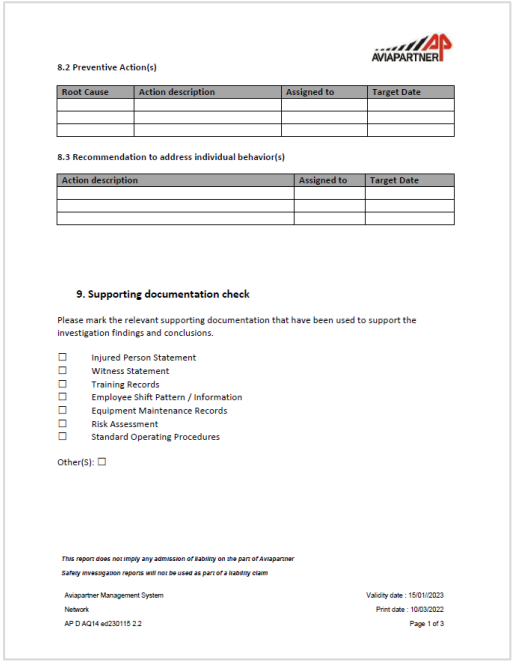
Safety investigation reports will not be used as part of a liability claim

Draft and Final reports

All internal investigations are managed and documented within the Q-Pulse system.
External reports are to be documented on the following template.







Draft and Final reports

REPORT DISTRIBUTION

Some important rules:

1 – Never include staff member names within the report (names are not relevant, but rather the job function).

2 - No reports are to be shared externally without prior approval from:
- VP Safety
- Legal Council (claudiobruyninx@gmail.com)
- CEO

3 – A copy of the report shall be attached within the supporting documents section of the Q-Pulse Investigation.


Be ready
Be safe

Record of revisions

Revision Date	Reviewed by	Slide/s number/s	Reason for Revision