

AIRLINES

Jan - Mar | 2023 |



"Safety First and Always" is our motto at Quikjet Airlines.

Safety Promotion forms one of the most important Pillars of the Safety Management Systems. It plays a key role in promoting the "Positive Safety Culture" within the organization. Publishing a Safety Bulletin christened "Quikjet Safety Chronicles" soon after completing the first three months of operations is a step in the right direction towards building a Safety Culture that resonates and aligns with the expectations of the regulators, customers and Quikjet alike.

It is quoted that until you spread your wings, you do not know how far you will fly. Let us spread our wings and together make Quikjet the most preferred cargo airline of choice that is the epitome of impeccable service, efficiency and unparalleled safety standards.

MESSAGE FROM THE COO

Qikjet's safety policy in short can be stated as "No accidents, No harm to people and No damage to the environment". As Qikjet staff, it is our responsibility to continuously contribute to enhance the safety of our flights and our working environment, no matter what function we are engaged in. All of us are either directly or indirectly involved in our flight operations. Nevertheless, most of us assume that safety is only concerned with the pilots, maintenance staff or ground crews. It is part of Qikjet Culture and all of us are responsible for it.



Our workplace and operating environments expose us to new challenges every moment, all of these may not be operational, many are administrative in nature. Our “attitude” in dealing with these challenges is the key to enhancing the safety in our workplace. It is important for us to have ‘Positive attitude, Professional attitude, Proactive attitude, Safe attitude, Compliance attitude and Winning attitude’. As an individual, one may or may not have all these qualities, however, as a team surely, we do.

Let us all put our best efforts in facing each challenge together... as a Winning Team. My best wishes for safe operations and happy landings!

Editorial

“A tiny change today can bring a dramatically different tomorrow”.

So stated Richard Bach, aviator and author of the hugely popular bestseller 'Jonathan Livingston Seagull'.

The launch of '**Quikjet Safety Chronicles**'- our quarterly Safety Bulletin, is a symbolic step in the tiny change we can make to enhance our knowledge and awareness of safety. This news bulletin is aimed at providing a platform where Quikjet personnel can share safety related information with a view to enhance the safety culture within the organization. The bulletin has been designed to cater distinct columns identified for key topics of interest. The quarterly flying hours and incidents are covered under **Stats**. Each edition intends to cover four safety related articles. Innovation and creative writing would be covered under **Serendipity**. **Events** would cover major activities pertaining to the quarter. In Quikjet, safety is viewed holistically- encompassing both Flight Safety and Human Safety. We are equally sensitive to employee health and green initiatives. Two articles are dedicated to **Health, Safety and Environment** in each edition.

Aviation without humor?! No way. **Wit n Wisdom** will ensure there are no dull moments in Quikjet.

In this inaugural edition, the four safety related articles that have been articulated are **Reactive, Proactive and Predictive Risk Management in SMS, The Risks Associated with Aircraft Loading, The Safety Threats in ULD Handling and the Boeing 747-400 Freighter Accident at Bagram airport, Afghanistan - A Case Study**.

Health and Safety in Cargo Airlines and Shifts in Clear-Air Turbulence Due to Climate Change are covered under **HSE**.

Can the human brain rewire and alter the course of his destiny? This is a perennial problem that occupied the minds of scientists and philosophers alike for centuries. This subject is explored in the article '**Neuroplasticity**' which is covered under Serendipity.

So, all you readers, who have often thought of the experiences that you wanted to share but could never really get down to write, well, the Editor is waiting with open arms!

Stats

Total Hours Flown for the Quarter

632:19

Accidents / Incidents Flight Safety

NIL

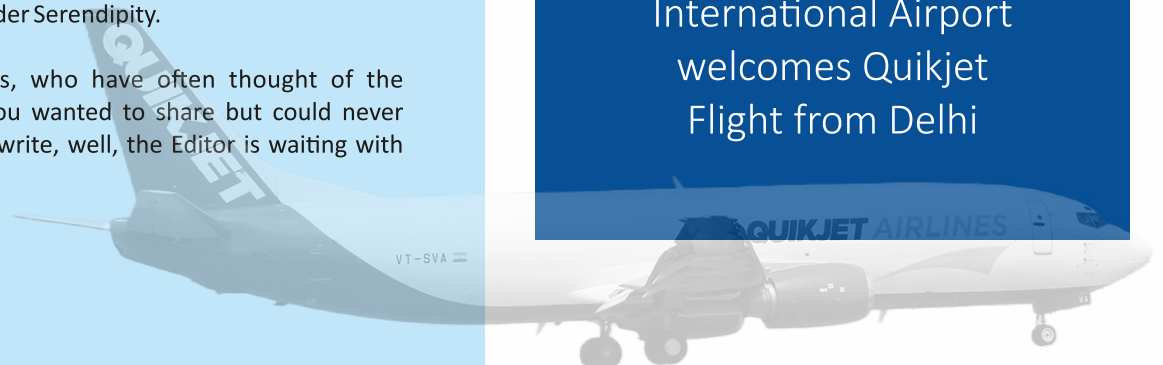
Accidents / Incidents HSE

NIL



EVENTS

Mumbai
International Airport
welcomes Quikjet
Flight from Delhi





RISKS ASSOCIATED WITH AIRCRAFT LOADING

Incorrect aircraft loading is a major contributor to incidents / accidents in cargo airlines. The primary risks arise from the aircraft being 'set up' for take-off with incorrect pitch, trim and / or take off reference speeds. This can arise in one of the four ways:

1. The aircraft is not loaded in the way stated on the accepted load and trim sheet (applicable to any load sheet type)
2. The aircraft load and trim sheet uses correct input data but the output data is wrong (applicable to manual load sheets)
3. The flight crew apply the (correct) load and trim data incorrectly when using it to calculate aircraft take-off performance data, including reference speeds and scheduled thrust settings.
4. The hold load is not properly secured or contains prohibited or incorrectly packed items.

Consequences of actual misloading or incorrect input of load related data

Either actual miss-loading of an aircraft or incorrect use of correct load related data for aircraft systems set up can severely affect aircraft performance, stability and control. Loss of Control may occur during an attempted take off or during subsequent flight because either:

1. An attempt (usually inadvertent) is being made to operate the aircraft outside the AFM limits, or
2. Flight crew actions to control the aircraft are ineffective because the aircraft is unable to achieve the expected performance, whether in relation to manually selected or FMS generated safety speeds on the ASI (e.g Vr) or selected engine thrust parameters.

One potential consequence of an error in loading or data entry is tail strike on take-off. This will usually lead to fuel dumping and a return to

the take-off airfield, without pressurizing the cabin and is not career enhancing for any of the pilots. Even more serious, Runway Excursion has been a regular result of errors of both these types in the past, whether or not an RTO has been attempted. Given the potential severity of a mistake in loading, of transferring erroneous weight and balance figures however derived, of entering erroneous data into the aircraft management systems (FMS) or miss-setting ASI speed bugs, both pilots should always carry out Gross Error checks.

Seniority does not imbue data entry infallibility! Amongst other checks, it is vital to confirm the Zero Fuel Weight is sensible and then that the indicated Take-Off Weight is as expected



DIVERSITY

With women occupying 33 percent leadership roles, it's Equity over Equality in Quikjet!

REACTIVE, PROACTIVE AND PREDICTIVE RISK MANAGEMENT IN SMS

Aviation safety managers and employees who understand the real difference between reactive, predictive, and proactive risk management activities gain considerable benefit for generating good safety performance.

The fact is that these three types of risk management strategies are often misunderstood and/or confused.

Each type of strategy has particular activities and behaviors that are useful in different situations. We can understand the basic purpose of each type of risk management as follows:

- Reactive: mitigate severity of safety events and threats;
- Proactive: identify safety concerns before safety events happen; and
- Predictive: anticipate future exposure based on past performance data.

Developing all three forms of risk management involves understanding your aviation SMS program and employees. Let's look at each what each type of risk management is, and situations when each type is useful. Here is a table that broadly shows the difference:



	REACTIVE RISK MGMT	PROACTIVE RISK MGMT	PREDICTIVE RISK MGMT
Definition	Actions in response to hazard/risk occurrence	Actions that address perceived hazard/risk occurrence before it actually occurs	Actions that attempt to forecast future, potential hazard/risk occurrence
Management Activity	After hazard/risk occurrence, taking measures (i.e., corrective actions) to prevent re-occurrence. Management does this by processing incident/accident reports and	Before an identified hazard occurs, management creates control measures to prevent initial occurrence. Identifying these hazards usually happens through proactive activities, or by reviewing proactive reports.	Analyzing current operations to identify areas of potential concern in future, hypothetical situation. This is done almost exclusively by reviewing existing systems and processes.
Front Line Employee Activity	Once hazard occurs, employees take action to prevent an accident. If risk occurrence is inevitable, employees take actions to mitigate damages. These issues must be reported.	Hazard mechanisms and threats are identified before hazard occurrence (and hazard occurrence is mitigated). These issues are generally "voluntary" reports, but it's a best practice to encourage employees to report these issues.	N/A
Examples	• MOR • Incident report • Accident report	• Audits/inspections • Voluntary reporting • Surveys	• System analysis • Safety case • FDA

Conclusion

The Reactive, Proactive and Predictive modes of Risk Management are evolutionary paths of an organization's SMS Implementation. As the organization matures in its 'Safety Culture', there will be less of Reactive Risk Management and more of Proactive and Predictive methodologies in its risk management. This is essentially due to early identification of potential hazards through proactive and reactive methodologies and incorporating suitable mitigation measures so that the incident and accident rates are minimized.

SAFETY THREATS IN ULD HANDLING

Unit Link Devices (ULDs) are typically lightweight structures comprising a structure of Aluminium extrusions, a relatively thick (2.5mm - 4mm) Aluminium base sheet, Aluminium or composite side and roof panels, and a fabric or metal door. By necessity they are made as light as possible, however they may be subjected to extremely severe handling conditions.

The rapid growth of air travel, especially air cargo, over the past 10 years has resulted in some ULDs being handled in sub-standard facilities using inappropriate handling practices. Any resulting damage is not only incur cost but may also create a condition which is hazardous to aircraft safety.

The primary purpose of ULD is to improve Flight Safety compared to bulk loading of holds. Whilst a serviceable ULD, properly loaded, will indeed achieve this, a widespread lack of awareness of ULD damage can result in risk arising from the use of containers that are not within their allowable damage limits. The common attitude that "It doesn't matter as long as the cargo makes the flight" and a widespread lack of adequate training for those involved in ULD operations can seriously impact aircraft safety. Damaged or improperly loaded ULDs present hazards to operators, aircraft systems & structure, cargo & baggage and GSE.

Used correctly, ULDs will remain within their safety limits for many years, requiring only minor repairs to wear and tear type damages. Incorrect handling of ULDs, particularly the indiscriminate use of forklifts will result in ULD damage rendering them unserviceable for use. Failure to observe rules and a "Make it up as we go along" approach to ULD operations will result in safety breaches.

SOLUTION

The solutions to these safety risks are found in:

- Provision of correct ULD handling infrastructure, guidance for which can be found in the IATA Airport Handling Manual. While such equipment is not cheap it is a necessity when it comes to ULD handling.
- Provision of training to all parties handling ULD to ensure correct procedures are followed. ULD may look simple, indeed a person loading ULD may be considered less skilled, however, the person loading a ULD is actually performing a flight safety critical function, and can put the aircraft and the crew at risk.
- Sufficient diligence by all parties in the ULD process to ensure that safety breaches are not allowed "Just this time" but are caught and rectified each time. Letting an unserviceable or badly loaded ULD go "Just this time" is as dangerous as ignoring any other defect on an aircraft and should never be permitted. An unserviceable ULD should never make it to the aircraft door, the defects should be picked up at the pre-loading inspection and the ULD rejected at that stage by having suitably trained staff carrying out the loading process.
- A culture of "Ask if not sure" needs to be observed. Guess work has no place in flight safety and this applies to ULD operations as much as to any other field of aviation.





CASE STUDY

BOEING 747-400 FREIGHTER CRASH, BAGRAM AIRPORT, AFGHANISTAN

SYNOPSIS

On 29 April 2013, a Boeing 747-400 freighter departed controlled flight and impacted terrain shortly after taking off from Bagram and was destroyed by the impact and in the post-crash fire, all seven occupants were killed. The Investigation found that a sudden and significant load shift had occurred soon after take-off which damaged hydraulic systems Nos. 1 and 2 and the horizontal stabilizer drive mechanism components as well as moving the center of gravity aft and out of the allowable flight envelope. The Load shift was attributed to the ineffective securing techniques employed.

Findings

The Probable Cause of the accident was determined as National Airlines' inadequate procedures for restraining special cargo loads, which resulted in the loadmaster's improper restraint of the cargo, which moved aft and damaged hydraulic systems Nos. 1 and 2 and horizontal stabilizer drive mechanism components, rendering the airplane uncontrollable".

A Contributory Factor' was identified as "The Federal Aviation Administration's inadequate oversight of National Airlines' handling of special cargo loads".

Safety Recommendations

The following Six Safety Recommendations were made:

1. That the FAA should revise the guidance material in Advisory Circular (AC) 120- 85, "Air Cargo Operations," chapter 201(a)(4), to specify that an operator should seek Federal Aviation Administration (FAA) approved data for any planned method for restraining a special cargo load for which approved procedures do not already exist and remove the language in the AC that states that procedures other than those based on FAA-approved data can be used.
2. That the FAA should create a certification for personnel responsible for the loading, restraint, and documentation of special cargo loads on transport-category airplanes and ensure that the certification includes procedures, training, duty hour limitations and rest requirements consistent with other safety-sensitive, certificated positions.
3. That the FAA should add a special emphasis item to Federal Aviation Administration (FAA) Order 1800.560, "National Flight Standards Work Program Guidelines," for inspectors of 14 Code of Federal Regulations Part 121 cargo operators to review their manuals to ensure that the procedures, documents, and support in the areas of cargo loading, cargo restraint, and methods for securing cargo on transport-category airplanes are based on relevant FAA-approved data, with particular emphasis on restraint procedures for special cargo that is unable to be loaded via unit loading devices or bulk compartments.
4. That the FAA should include specific guidance in the Federal Aviation Administration inspector handbook that defines responsibilities for principal inspectors for the oversight of an operator's loading, restraint, and documentation of special cargo loads.
5. That the FAA should provide initial and recurrent training for all principal inspectors who have oversight responsibilities for air carrier cargo handling operations that specifically addresses operator cargo procedures, documents, restraint, and support for technical decisions related to special cargo loads.
6. That the FAA should implement temporary risk-reduction methods any time that required surveillance items for 14 Code of Federal Regulations Part 121 and 135 operators are deferred and establish appropriate limitations on surveillance deferrals.

HEALTH AND SAFETY IN THE CARGO AIRLINES

The rapid growth of aviation is posing ever-increasing strain on major airports, demanding shorter flight turnarounds. This increased pressure, alongside the likes of high turnover and less trained ground staff has led to soars in injuries on the ground within the industry.

Let us look at some of the top hazards to watch out for in the cargo airlines, as well as some recommendations on how the risks can be reduced.

WORKING AT HEIGHT

Preparing aircraft for take-off in cargo airlines are very labor-intensive activity and it means that employees must work at height such as the Upper Deck Loader(UDL). Year on year there are reported injuries of employees working in these conditions.

Employers should also regularly inspect any fall protection equipment provided to employees for signs of damage or wear and tear so that it can be replaced if necessary. Whether the employees are maintaining, loading or simply entering or exiting the aircraft, ensure that the risks involved with these activities are minimized.

Working at height risks can be minimized by:

- Conducting thorough risk assessments regularly
- Providing stable working platforms where working at height is necessary
- Providing appropriate fall protection equipment such as harnesses and safety belts
- Increasing supervision whilst employees are working at height

MOVING VEHICLES

Runway vehicles are not just limited to the aircraft – the likes of fuel tankers, baggage trucks, and mobile aircraft steps are all heavily present across the tarmac. This traffic, alongside the inability to hear the vehicles due to the aircraft noise, present a large risk to the health and safety of all in and around the moving vehicles.

To minimize the risks of being struck by a moving vehicle, you must:

- Wear high-visibility clothing at all times on the runway
- Keep to designated walk-ways
- Remain as alert and vigilant as possible when moving from place to place
- Continuously risk assess the environment

NOISE

Noise pollution is one of the most prominent hazards associated with aircraft operations. Aircraft engines generate large amounts of noise. This can have serious implications for workers' hearing if they are exposed to these loud noises on a regular basis over long periods of time.

It's no secret that airplanes create noise, with the average jet take-off having a decibel level of a staggering 100-120dB at 35 meters distance. Persistent exposure to this noise can cause severe and permanent ear damage.

To prevent this, employees should wear appropriate hearing protection gear such as ear plugs or ear muffs when they are working close to aircraft engines or other loud machinery.

POOR LIGHTING

Low lighting is often essential for parts of runways throughout the night to avoid confusing approaching aircraft. Although this is a requirement to prevent further hazards, the low lighting presents a risk to ground staff, both walking and in moving vehicles, due to the lack of visibility.

To reduce further risks, it's important to ensure that all staff wear high-visibility jackets at all times when in such situations.

SERENDIPITY!

NEUROPLASTICITY: THE ABILITY OF HUMAN BRAIN TO REWIRE



Circumstances can change and so can you. Neuroplasticity allows human brain to rewire and learn new skills, gather new information and use it! So, what is this magical neuroplasticity?

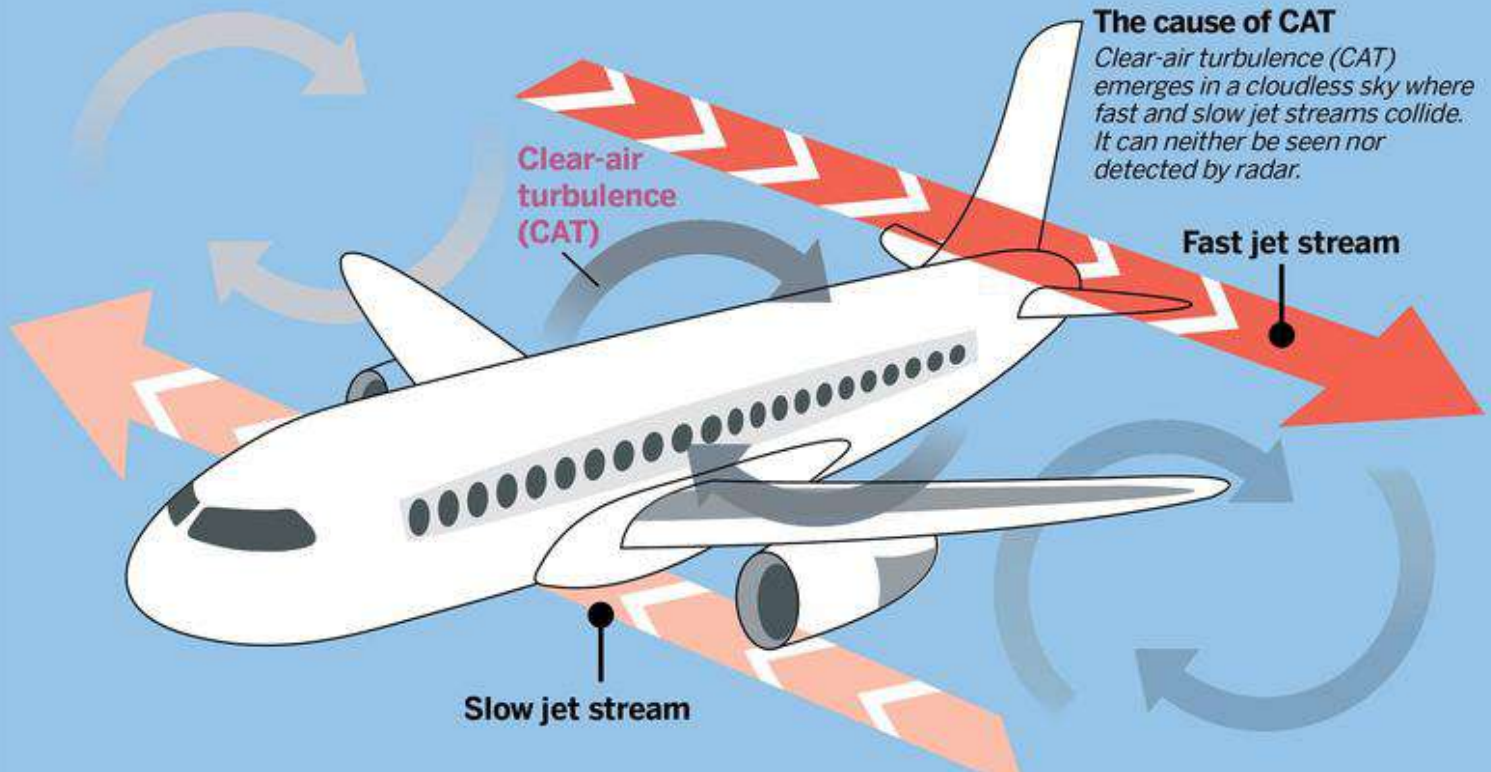
Let's break the word "Neuroplasticity" down. "Neuro" refers to the nervous system consisting of the brain and spinal cord, and "Plasticity" refers to change. Your brain is constantly changing. You can participate in that process. This means that things are not permanent as we once thought that they were! That is promising, isn't it?!

Through a process called neurogenesis, some cells in the brain grow even at old age. In other words, new neurons and new connections between existing ones are sometimes created. New brain skills are created by having new experiences and building new skills.

How to Rewire Your Brain

It's natural to do what feels comfortable repeatedly. Yet, our brains need novelty to thrive. Every time you learn or do something new, your brain creates a new connection. Repeating that action reinforces such a connection. Some of the ways you could promote neuroplasticity include - Use your nondominant hand, Speak a new language, Play a new instrument, Code computers, Do puzzles, Travelling to new destinations, Practicing Mindfulness, Paint, Draw, Sing.

While neuroplasticity offers countless benefits, it may also offer some challenges. Ironically, some of our most stubborn habits and disorders are products of our plasticity. Once a particular plastic change occurs in the brain and becomes well established, it can prevent other changes from occurring. That is where the "Management of Change" poses challenges in SMS implementation!



SHIFTS IN CLEAR-AIR TURBULENCE DRIVEN BY CLIMATE CHANGE

In meteorology, Clear-Air Turbulence (CAT) is the turbulent movement of air masses in the absence of any visual clues, such as clouds, and is caused when bodies of air moving at widely different speeds meet. CAT is usually impossible to detect with the naked eye and very difficult to detect with a conventional radar, with the result that it is difficult for aircraft pilots to detect and avoid it. Clear-air turbulence causes a large percentage of weather-related accidents.

The main culprit of clear-air turbulence is wind shear, which is a sudden change in the speed and direction of the wind, particularly within jet streams. When the wind is blowing from the west at 100 miles per hour at 30,000 feet and also blowing from the north at only 30 mph at 20,000 ft, or directly underneath, it can be quite turbulent for an airplane moving between those two altitudes. In a nutshell, high wind shear makes for an unstable jet stream and faster wind.

Both of these play a major role in clear-air turbulence, and changing global temperatures have already increased wind shear by 15% since 1979. Plus, clear-air turbulence tends to develop around upper-level jet streams, where planes typically fly. These fast-flowing bands of wind are strengthening with global warming.

The increase in greenhouse gasses traps heat in the troposphere, the layer of the atmosphere closest to the surface. But this heat should have been released into the stratosphere, which is the next layer up. As a result, globally the troposphere warms while the stratosphere cools at a rapid rate. This increases the temperature gradient between the two layers, which strengthens the jet stream, which in turn creates a more unstable wind flow and increases clear-air turbulence.

Weather researchers further predict clear-air turbulence will double by 2050, with severe turbulence increasing the most.

Airlines could take longer, more expensive routes to avoid turbulence.

Airlines always try to avoid turbulence as much as possible. Thus, increasing turbulence will likely lead to more convoluted flight routes, which could mean longer travel and wait times, along with increased aircraft fuel consumption and CO2 emissions. Thus, avoiding turbulence may cost additional cost to airlines. Hope some technological solutions are under way!



Wit n Wisdom

Artificial Intelligence can't take your job if your job never required any intelligence to begin with.

15:32 ✓

I didn't get it... 15:32

You're safe! 15:32 ✓