



WELCOME

Beyond Aircraft Accident @ Lima, Peru: Exercices, Risks & Mitigations



**18 Nov 2022- 15:11 (LT)- LATAM A320 LA2213, Lima to Juliaca, Peru
hit CFT while rolling for takeoff from RWY 16. POB-108, Fatalities: 03 Firemen**



Heartfelt Condolences

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Our sincere condolences to the family members of the heroic firefighters



Nicolás Santa Gadea



Angel Torres



Manuel Villanueva



SAFETY



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**Change
Management**

**AC Accident
Overview**

@ KIAB

Conclusion

Aviation safety

The state of an aviation system or organization in which **risks** associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an **acceptable level**.



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FIRST

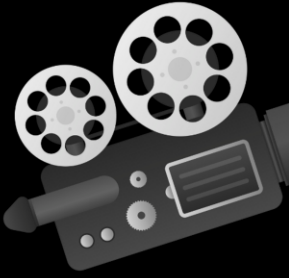
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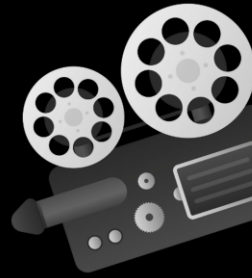


Are Changes to be Managed?

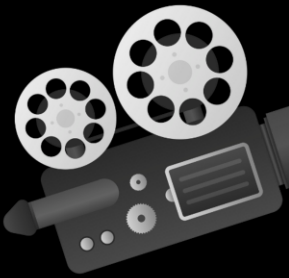
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Change Management

Change management in aviation involves structured approaches that transit organizations from current to desired states.

Aviation is Dynamic - Organizations must embrace changes and effectively manage them.

Equipme

- Addition of Infrastructure

Enhancing Customer Experience

- Low Visibility Operations
- Exercises & Operations

Responding to Economic Changes

- Pandemic
- Cost management

Change Management Key Strategies

Safety First

Rigorous safety assessments
and meet regulatory
standards

Effective Communication

Engage stakeholders, employees, regulators, and customers, - fosters understanding & support and mitigate resistance to change.

Leadership Alignment

Change oriented, provide guidance and actively engage - fosters change culture and encourages employee buy-in.

Comprehensive Planning

Consider risks, resources,
timelines, roles,
responsibilities,
milestones

Training and Development

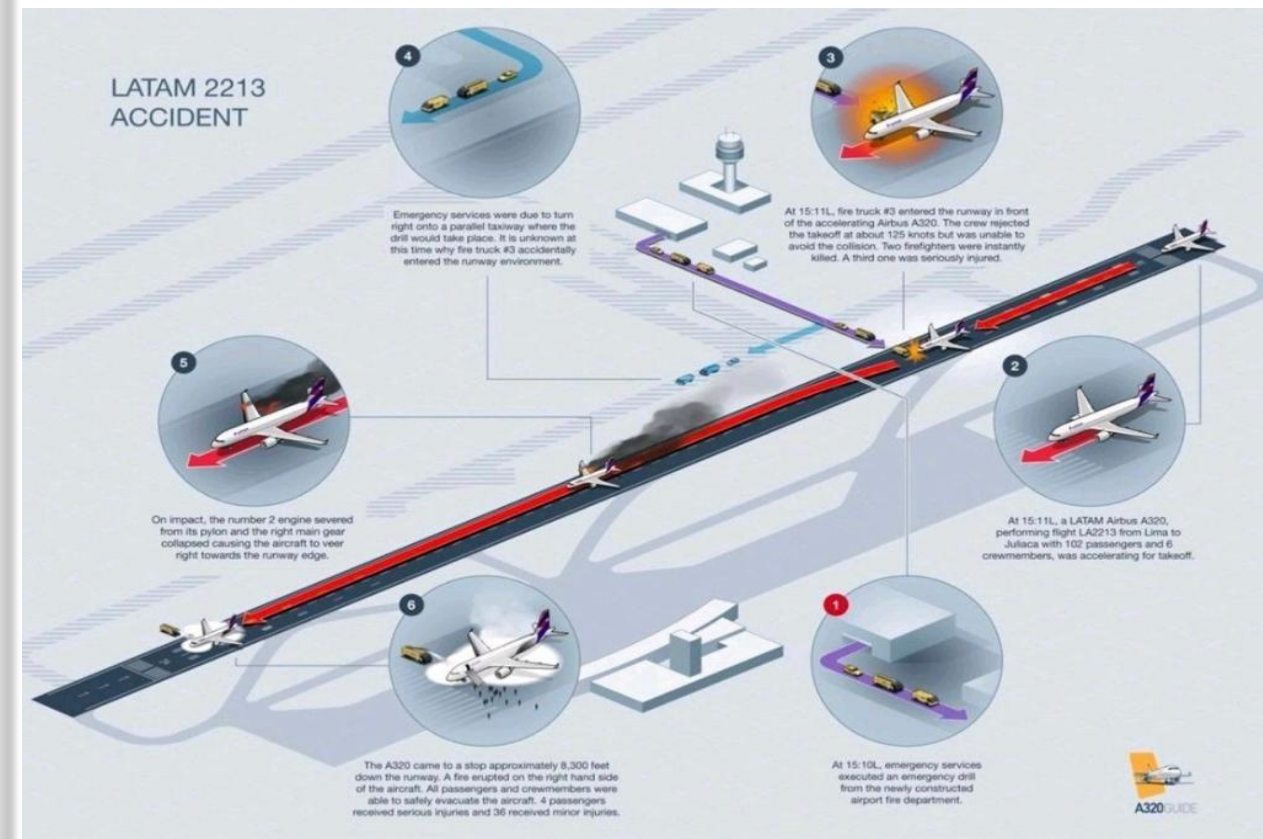
New skills, adaptation,
enhance performance and
change success rate.

Continuous Improvement
Iterative, feedback, surveys,
and metrics to identify areas
for improvement.

How the Event unfolded?

- 18 Nov 2022- 15:11 (LT)- LATAM A320 LA2213, Lima to Juliaca, Peru SOB 108 rolling for takeoff from RWY 16.
- Multiple fire trucks with flashing lights and sirens entered the runway in front of the accelerating aircraft.
- Pilot rejected takeoff at high speed (at about 125 knots over ground) but couldn't avoid contact with Fire Truck No: 3.
- The truck operator tried to turn right to avoid collision, but could not.
- Right main gear collapsed causing the aircraft to veer right and stopped partially off the runway about 2500 meters down the runway and caught fire.

- Fire on starboard engine
- All pax & crew evacuated.
- Serious injuries to 4 Pax & Minor injuries to 36.
- Fatal injuries to two Fire Crew & serious injury to one Fire crew

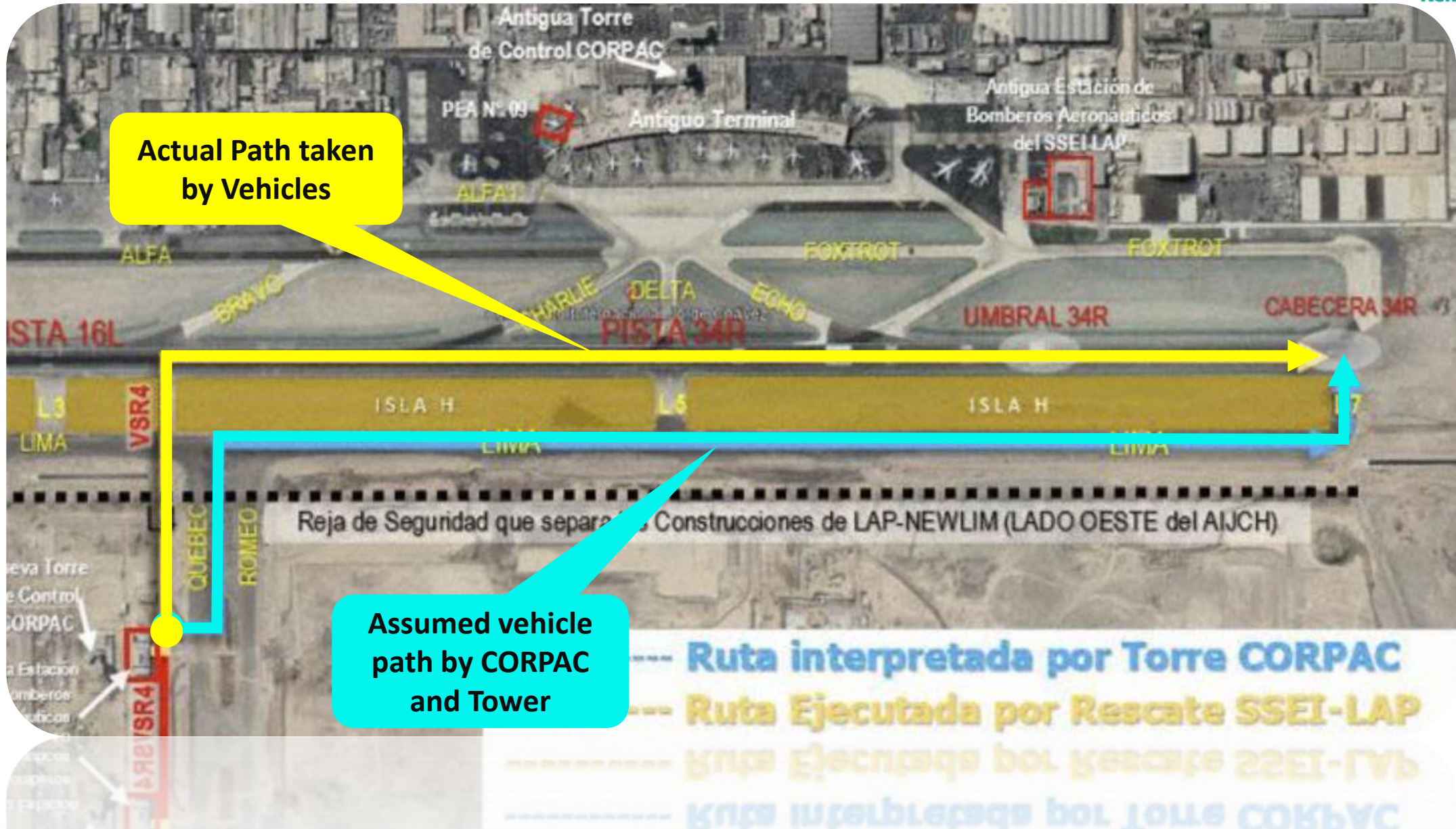


Change Management

- Airport - Preplanned response time exercise was performed by the Fire & Rescue Team. Coordinated with ATC (CORPAC) for 15:00 and 16:00 LT. SOP followed. **Approval before entering Runway?**
 - ATC - report states that the rescue vehicle entered RWY 16 from the west without authorization and collided with flight LA-2213.
- Initial report suggest that fire brigade had only intimated their proposal of conducting the response time check and was approved by ATC.
 - Real time coordination between ATC and Fire Watch Tower before the conducting response time check not followed.
 - This might have led to the miscommunication between the two agencies.



Change Management



Contributing Factors

Failure to Hold Briefing Meeting

- No post-exercise briefing between airport and Civil Aviation Authority.
- Lack of **identification of errors, deficiencies, and procedural** shortcomings.
- Hindered improvements for optimal execution in subsequent exercises.

Failure to Hold Briefing Meeting

- Civil Aviation Authority accepted proposal without full facility handover to ATC.
- Potential **compromise on exercise integrity and safety standards.**
- Risk of **inadequate preparedness** for emergency scenarios.

Absence of Hazard Assessment Meetings

- No **meetings between ATC and airport** to assess hazards and manage risks.
- Lack of mitigation actions for new areas and facilities.
- Heightened risk of safety incidents due to **insufficient planning.**

Failure to Hold Joint Planning Meeting

- No joint meeting between ATC and airport for second exercise planning.
- **Lack of clarity for participating personnel** on exercise concept and details.
- Increased likelihood of confusion and procedural errors during execution.

Contributing Factors

Lack of Instructions to Control Tower and Emergency Services

- Failure to provide instructions for second exercise execution.
- Tower controllers not familiarized with new aircraft and vehicle routes.
- Potential for miscommunication and compromised safety protocols.

Misinterpretation by Airport Rescue Services

- Erroneous interpretation of clearance for exercise commencement.
- Incorrect assumption of clearance to enter runway.
- Heightened risk of runway incursions and safety breaches.

Insufficient Time for Hazard Assessment

- Controllers received exercise information minutes before start.
- Inadequate time for hazard and risk assessment.
- Increased vulnerability to safety incidents due to rushed preparations.

Non-Compliance with ICAO Phraseology

- Lack of use of standard ICAO phraseology for communications.
- Potential for miscommunication and misunderstanding between parties.
- Compromised effectiveness of emergency response coordination.

Contributing Factors

Lack of Controller Awareness

- Controllers lacked information about new facilities and taxiways.
- Absence of critical knowledge for emergency response planning.
- Increased risk of operational errors and safety lapses.

Coordination Challenges during Emergency

- On-call supervisor at control tower unfamiliar with exercise details.
- Misunderstanding of rescue vehicle approach to runway.
- Lack of clarity on safety cone removal leading to runway access confusion.

Exercises & Outcomes?

Exercises

- Full Scale
- Partial
- Modular
- Response Checks
- Hot Fire Drill
- Performance Checks....

Risks

- Runway Incursion
- Collision - Aircraft
- Collision - vehicles
- Collision - Personal
- Injury – Fire Staff
- Damage – CFTs/Emy Vehicles
- Reduced Category
- Image.....

Mitigations

Positive two-way communication
SMR Coverage
Standard Operating Procedures
Checklists
Situation Awareness
Protective Equipment
Effective Supervision
Training & Awareness
Stakeholder coordination
Change Management

Lessons learnt and Applications:



Scenario

- Date : 02.02.2024
- Time : 1900h
- Exercise : On-Site Crisis Management
- Location : Grid Reference G18 (Twy G on Rwy 09R/27L)
- Mode of Operations : Segregated (Rwy 27L Take Off)

Preparatory Phase

- Identification of critical resources & stakeholders
- Coordination meetings & site visit.
- Familiarization to involved parties.
- Tabletop exercise.

Risk Assessment

- Movement of Emergency services – Highspeed response
- Movement of Men, material, vehicles of mutual aid.
- Aircraft entering exercise area
- Straying/staying back of personnel.
- FOD Menace
- Breakdown of vehicle in movement area
- Inadequate lightings
- Actual Aircraft Emergency

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Legend

- - Exercise Location
- ➔ - Emergency Vehicle Route
- ➔ - Aircraft Route
- ➔ - Support Vehicle Route
- - Barricades



Lessons Learnt

What did we do?

- Reviewed our procedures.
- Risk Assessments before every exercises - Movement area entry.
- Effective Communication
- Placing of ARFF staff at ATC Tower
- Positive two-way communication
- Vehicle equipped with Transponder
- Do not disregard RED lights
- Road holding position marking, lights & sign - All entry points.
- Trafficator lights either side of Fire Stations
- Dedicated Road network to enter manoeuvring area.
- Prohibition to stop on emergency roads by other vehicles.
- Right of Way





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