Weather risk management

Through a systematic approach to the investigation of weather events
Course delivered by:

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Course objectives …

• Developing an investigative weather risk management program that will reduce Company incident and accident rates.

• Enable organisations to develop a more robust system to make their operations more “Weather Tolerant” and enhance operational efficiencies.

• Learn from recent Aviation incidents caused by significant Weather conditions.
The Cost of an Accident?

(Adapted from Flight Safety Foundation, 2002)

- **11 Killed**
- Aircraft written off
- Damaged reputation
- Airline ceased operations
- Repairs bring new configurations resulting in higher fuel consummation, etc
Cost of weather accidents/incidents

Direct Cost
- Equipment, injuries, and fatalities

Indirect Cost
- Restoring Order
- Loss of equipment and personnel
- Cost of Recovery
- Delay in Doing Business
- Corporate Reputation
- Investigation Costs
- Litigation

Source: U.S. Naval Safety Center
Summary of the “Weather Problem”

• Weather has a major impact on the safety, efficiency, and capacity for aviation operations.

• Accidents and incidents continue to be caused by adverse weather.

• Passengers are inconvenienced by:
  – Delays,
  – Flight cancellations or diversions due to weather,
  – Uncomfortable or may even be injured when turbulence is encountered during a flight
The Cost of Injuries

- Turbulence is leading cause of injury to cabin crew and passengers in non-fatal accidents.
- Cabin crew account for majority of serious injuries.
- IATA estimates 18 cabin crew are injured in turbulence per every million flight hours.
Flight Diversions

• 25% of serious injuries in turbulence result in diversions

• Flight diversions can also incur other costs:
  – Flight cancellation.
  – Meals and/or accommodations for passengers.
  – Negative impact on productivity, schedule efficiency and operations.
Impact on Operations

- Injured cabin crew are unable to continue working on a pairing if the injury is serious.

- Scheduling must find other cabin crew to work on remaining flight legs or pairing.

- This can result in delays.
Negative Public Perception

• Turbulence events attract media attention.

• Negative impact on passenger’s view of the airline’s safety record.
Damage to Cabin Interior

- Turbulence can cause damage to cabin interior.
- Unrestrained equipment can damage panels, seats and other equipment.
Industry-wide Costs

- IATA estimates the cost to airlines of turbulence-related injuries to cabin crew (including lost workdays and medical bills) at more than $65.8 million USD per year.
Weather Management System (WMS)

• ‘Big Picture’ approach to managing the impact of weather

• Comprised of a series of Weather Risk Control Systems (Wx-RCSs) designed to manage the impact of weather hazards (e.g., thunderstorms, turbulence, reduced visibility, LLWS) on safety and operations.

• Effective Weather tools for Dispatch Ops.

• Effective Pre-Flight Briefing Packages
Evaluate Operational Weather Data

- Quality/Availability of Destination Weather Services
- Limitations of ATC – Airport Weather Radar
- Collection/Dissemination of:
  - Pilot Weather Reports (PIREPS)
  - Weather Specials (TAF/METAR)
- Quality of CRM Training (Decision Making)
- Knowledge of Weather Threats
- Time required to Analyze these Threats
- Level of Awareness
Thank you