2018 BIRD STRIKE COMMITTEE USA MEETING

Baltimore, Maryland

Carlos F. G. Schönhardt MSc
Flavio A. C. Mendonca, MBA, Ph.D.
Introduction
Offshore Aviation in Brazil

Since 1980

Air passenger and cargo transport to offshore platforms began in the 1980s. The largest customer in Brazil is PETROBRAS, which ranked fifth in 2011 among the largest publicly traded oil companies in the world.

- Air passenger and Cargo Transport
- Medical Evacuation
- Helicopter Maintenance
- Helicopter Transport of External Cargo
National Civil Aviation Agency from BRAZIL.

ANAC regulatory agency established to regulate and inspect civil aviation activities as well as aeronautical and airport infrastructure in Brazil.

The government agency works to ensure civil aviation safety and security and to improve the quality of services, fostering a competitive market.

CENIPA

Brazilian Aeronautical Accidents Investigation and Prevention Center (CENIPA) is the body of the Aeronautical Command responsible for the aeronautical accident investigation activities of civil aviation and the Brazilian Air Force.

The aircraft accident investigations are based on ICAO Annex 13.

CENIPA manages the Brazilian wildlife strike database.
02 Brazilian Legislation
Brazilian Legislation

- Resolution 4 from the National Council of Environment (CONAMA)
- Resolution 237 from the National Council of Environment (CONAMA)
- Normative Instruction IBAMA 72
- Basic Bird Strike Management Plan PCA 3-2.
- Complementary Law nº 140

Brazilian Legislation

- Law № 12.725
- Brazilian Civil Aviation Agency Regulation № 164
- IS №164 -001 from Brazilian Civil Aviation Agency
- Resolution 466 from the National Council of Environment (CONAMA)
- CENIPA 111/DOP-AGRF/2017 – MCA 3–8

Years:
- 2012
- 2014
- 2015
- 2015
- 2017
Brazilian Legislation

Ordinance 692/GC3/2017
Ordinance 741/GC3/2018

2017  2018

IMPORTANT

1 legislation on 2005
9 legislations from 2011 and 2018 (75% during the last 8 years)
Brazilian Statistics
Brazilian Statistics
Reported Strikes versus Brazilian aircrafts registered fleet from 2008 to 2015

Source: CENIPA, 2016
Brazilian Statistics
Reported Strikes per Phase of Flight in 2015

Departure Phase (30.0%) and arrival phase (36.5%) > Total 64.7%

Source: CENIPA, 2016
Brazilian Statistics

Reported Sightings per Month from 2011 to 2015

Source: CENIPA, 2016
Brazilian Statistics

Reported Near-misses per Month from 2011 to 2015

Source: CENIPA, 2016
Brazilian Statistics
Reported Strikes per Month from 2011 to 2015

Source: CENIPA, 2016
Considerations

**Regulation update**
Providing guidance to major aviation stakeholders in order to prevent accident due to wildlife strikes.

**Online report**
The introduction of “on line reporting system” (SIGRA - CENIPA 15 form) facilitate the reporting of wildlife strikes events by aviation stakeholders.

**Brazilian fleet**
The amount of reported strikes has continously increased since 2008 due to the Brazilian fleet and aircraft movements growth.

**Communication**
Safety campaigns have improved pilots’ situational awareness regarding wildlife hazards. For example the number of CENIPA 15 form increased since 2008.

**Risk management**
A more robust data base has supported the risk management efforts by aviation stakeholders, specially airport operators.
Case Study
During initial climb out the crew members saw a flock of birds, they tried to avoid a strike by manoeuvring the helicopter to the left (before reaching 500 feet AGL). Pilots then saw another flock of birds, tried again another evasive manoeuvre to avoid the strike. However a black vulture hit the aircraft nose at approximately 700 feet AGL and 90 kt. After the impact the flight crew returned and safely landed at the same aerodrome.

Date: May 27th 2017
Hour:10:20AM (local time)
Place: Itanhaém Airport
(São Paulo – Brazil)
Helicopter model: AW-139
Damage: Radome
Phase: initial climb
Bird Strike Costs

Helicopter not airworthy for 2 days

Schedule 3 flights per day > Total 6 hours per day

Direct Costs

- Nose Radome: US$ 18,057.53
- Tax: US$ 120.00
- Shipment: US$ 1,449.24
- Maintenance (labor cost): US$ 1,500.00

Total direct cost: US$ 21,126.77

Indirect Costs

- Helicopter fixed cost per day (average): US$ 10,000.00
- Helicopter Offshore loss of revenue per hour (average): US$ 2,000.00
- Fixed: US$ 10,000.00 x 2 days = US$ 20,000.00
- Total loss of revenue: US$ 2,000.00 x 12 hours = US$ 24,000.00

Total indirect cost: US$ 44,000.00

Basic helicopter (R 44) U$ 180.00
Sightseeing Flight (AS 350) U$ 2,000.00
Transport Flight (AS 350) U$ 1,800.00
## Bird Strike Costs

<table>
<thead>
<tr>
<th>Costs Type</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Direct Cost</td>
<td>US$ 21,126.77</td>
</tr>
<tr>
<td>Indirect Cost</td>
<td>US$ 44,000.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>US$ 65,126.77</strong></td>
</tr>
</tbody>
</table>
Communication process
Communication Process – Bird Strike

Pilot
Report to CENIPA using the CENIPA 15 form.

Safety Department
Customer informed by email

Maintenance Department
ANAC is informed through Service Difficulty Report

Pilot
Report by e-mail to safety and operations managers

Pilot
Pilots Report on flight and maintenance logbook
Communication Process and Actions - After Bird Strike

Safety Department
Completes customer investigation form to provide bird strike details.

Safety Department
Promotes flight safety.

Safety Department
Sends formal letter to the airport administration.

Safety Department
If this event was classified as an aircraft accident or incident, Aeronautical Accidents Investigation and Prevention Regional Office should be notified.

Safety Department
Provides pilots feedback about all the activities developed to mitigate bird strike.
Flight Safety promotion

01 Safety Alert

02 Biweekly pilots’ meeting

03 Safety Week

04 Safety Seminar
Final thoughts
Bird Strike Prevention on Offshore Operation

- **Information**
  - Use Automatic Terminal Information Service (ATIS) and Notices to Airmen (NOTAM) to enhance aviation safety.

- **In-flight procedure**
  - Use the helicopter landing lights during departure and arrival phases of flight.

- **In-flight procedure**
  - Reduce airspeed to 100 kt while entering the onshore line.

- **Pilot Training**
  - Use the helicopter controls to pull up and turn to avoid bird strike.

- **Pilot Training**
  - The correct use of CENIPA 15 form. It is important to wildlife strike management because information is paramount for safety efforts and programs developed by aviation stakeholders.
Database is Essential for Wildlife Strike Mitigation Efforts

A POOR SAFETY culture is the main obstacle for wildlife strike reporting by crews and airport stakeholders.

**Why does it happen?**

Low situational awareness of the relationship between reporting and wildlife strike management.

Low rate of aircraft accidents due to wildlife strikes

**What should we do to improve our database?**

Enhance crew training (initial and refreshing) and airport stakeholders instructions to improve the quality of strike reports.

Improve integration and the communication process among aviation stakeholders.
Thank you!

Carlos Schönhardt, MSc
Flight Safety and QHSE Manager
+55 (21) 98002-0827
+55 (21) 96508-5010

cschonhardt@aeroleo.com.br
schonpilot@hotmail.com

Flavio A. Coimbra Mendonca,
MBA, Ph.D.
Assistant Professor & Senior Aircraft Accident Investigator
Purdue School of Aviation and Transportation Technology
765-4966155
fmendonc@purdue.edu
References


References


