

9-1-2009

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Battistoni, Valter, "Bird Strikes and The Courts: The Antonov Case" (2009). *2009 Bird Strike North America Conference*. Paper 11.
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BIRD STRIKES AND THE COURTS: THE ANTONOV CASE

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ABSTRACT

At the 4th Bird Strike Committee USA – Canada Joint Meeting (2002), I presented a paper more or less with the same title as this one, called “The Genoa Case”. I thought it would have been useful for such an international audience to know the outcome, at first degree level, of the first Italian civil lawsuit for damage compensation following a multiple bird strike with ingestion that occurred at Genoa airport in 1989.

Later on, in 2004, I was entrusted by ENAC (Italian CAA) to support the Agency’s defence as a technical consultant in a new lawsuit regarding another multiple bird strike with ingestion that occurred once again at Genoa airport in 1997. By working alongside the experts appointed by the Court and by the parties involved, I had the opportunity to follow the whole trial from an inside angle until the final decision in 2006.

This paper aims to describe and comment on the main plaintiff’s and defendant’s strategies in a bird strike lawsuit and the Court’s final decision. Another goal is to provide suggestions to those who are exposed to the risk of being involved in similar situations that could lead them to follow all the best recommended practices and to collect and save as much documentation as they can before a possible trial initiates.

THE FACTS

On 19 June 1997 at 06.44 LT an Antonov 124 cargo aircraft, operated by a Ukrainian carrier was going to take-off from Genoa airport bound for Antalya (Turkey) for a technical stop on the route to Karachi (Pakistan), where it had to deliver two heavy turbines.

After a normal take-off run, immediately after lift-off, it impacted a flock of birds. Take-off and initial climb went on with great difficulty, so that about two minutes later the captain declared he was coming back – without a formal emergency call – for landing in the same airport, where he actually landed 11 minutes later, due to problems in #3 engine which automatically shut off, and in #2 engine, which showed a power loss caused by bird ingestion.

About 40 carcasses of gulls (*Larus cachinnans*) were found on the runway after the landing. The aircraft suffered substantial damages that needed the replacement of two engines and other minor works in order to be allowed to do a ferry flight to the company base and undergo a full airworthiness maintenance.

The aircraft insurance company therefore sued the airport operator, the Ministry of Transport, ENAC (CAA) and ENAV (ATC provider) claiming compensation for damages. The injured party estimated the damage at about 2.5 million US dollars.

THE CARRIER'S REQUESTS

Consistent with the previous Genoa lawsuit, which ended successfully for the air carrier, the arguments advanced by the injured party were practically the same three: 1) Liability for lack of vigilance and control by the airport Authority (CAA, Ministry); 2) Liability for lack of information to pilots regarding bird hazard (CAA, ATC); 3) Liability for lack or improper use of suitable bird dispersal means (Airport Operator).

Point #1 logically derived from ascertainment of point #2 and point #3, since if those accusations had been proved, the lack of vigilance and control would also have been proved.

According to the formal legal procedures, the monocratic Court (only one judge) appointed its own technical consultant in order to assess the following main points: a) the exact mechanism of the incident; b) if the airport location, the grass cutting procedures and the wildlife habits could be considered as an incident joint cause; c) what was the flock consistence and if it was perceivable from ATC operators, safety officers, pilots; d) if any negligence, imprudence or lack of skill might be found in the flight crew, in ATC personnel, in public Authorities, in safety personnel; e) if the use of remote sensing or dispersal devices, or technical procedures and rules, could have avoided the incident; f) what each aircraft operating on that airport paid as a fee, to whom and for what services; g) what domestic and international body took care of bird strike issues, and what directives or instructions had been issued for prevention purposes, and which of them were actually exploited at Genoa airport; h) which kind of control and supervision were done on the presence and activation of prevention means and bird dispersal.

Then it was the turn of other parties (both plaintiff and defendants) to entrust their own technical consultants, and the “battle of experts” began.

THE BATTLE OF EXPERTS

According to the formal procedure, the judge's consultant had to hear the other experts, in order to answer the Court questions, trying to achieve a common opinion on the facts; in case of disagreement, he would have

presented his own report mentioning other parties' different conclusions and submitting them to the Court. However the judge was free either to accept his consultant's opinions or to refuse them, deciding with full independence.

Several witnesses were heard, and several visibility tests were carried out with gull models observed from different positions, including the control tower. It was ascertained that no technical investigation had been conducted after the incident, therefore not in compliance with ICAO Annex 13.

During the meetings it was immediately clear that common answers were impossible, as the injured party advanced arguments totally opposite to those claimed by the airport operator and CAA. So each party decided to present its own report answering the judge questions.

The injured party presented a well documented report in order to prove the following points: 1) The impact occurred during take-off run and not after the lift-off; the aircraft was still with the wheels on the ground or at most it had just began the rotation; 2) The gulls were settling on the ground, on the runway edge or on a taxiway; they probably had spent the night at the airport and flew off when the aircraft was approaching; 3) The impact was frontal; 4) The gulls were likely out of sight of the flight crew, for the distance and the early morning light conditions, and of the TWR; 5) The dispersal devices (gas cannons) were not working at that hour in order to avoid noise to the neighbourhood; 6) No remote sensing devices were in use; 7) There was an evident lack of diligence of the airport operator, and consequently of the supervising airport Authority, concerning runway inspections and the use of bird dispersal means.

The first four points were particularly stressed, showing a sort of "general theorem" based on an automatic operator liability if the birds are settling on the airfield during take-off.

The airport operator's (defendant) report, on the contrary, claimed that the impact occurred when the aircraft was flying at an height of about 25/30 mt. above the ground, therefore well after the rotation; that the gulls were not settling on the runway but came in flight from the right side of the aircraft; that otherwise the pilot would have observed the birds at a sufficient distance to stop the aircraft safely; that all eyewitnesses (operator employees) confirmed they saw the gulls coming from the right side and then hitting the aircraft; that half an hour before the Antonov take-off, there was another take-off and another runway inspection, and both did not report any birds; that it was inconceivable that so many birds (probably 100 or more), settled on the runway or in its surroundings, had not been recognized even by ATC controllers; on the contrary, if they were flying following a track perpendicular to the runway, neither the flight crew nor the TWR could probably see them; that after the first trial the airport had been equipped with all main bird dispersal devices and that they all were working at that moment; moreover the operator had established strict reporting procedures for every inspection, as proved by thousands of reports presented to the Court, as evidence of the attention dedicated to the bird strike phenomenon.

The ornithologist report (on behalf of the airport operator) supported the above conclusion, explaining the gull behaviour, probably young individuals in that season, usual flight trajectories and heights in that area, furthermore demonstrating with videos that actually there was a harbour area, on the right side of the runway, normally used by gulls to roost. He refused to believe that the gulls might have spent the night on the runway for the same reasons of visibility as above, and that they were not perfectly visible also at a great distance at 06.30 a.m. in late June, almost in full summer. The professor ended stating that very likely the impact occurred in flight at a height of about 30 mt. with a flock of young gulls coming from outside the airport.

As is understandable, the airport operator was trying to avert every responsibility from itself, assuming he adopted the most efficient means in order to avoid the incident.

In my ENAC supporting report I tried to demonstrate that the incident was to be considered as accidental, unavoidable although foreseeable and actually foreseen from a statistical point of view. I claimed that the Government had a long time previously set up a Bird Strike Committee, especially following the first "Genoa Case", and that this board had adopted many awakening actions in respect of airport operators. The airport authority had issued proper safety procedures and was actually controlling their compliance.

On the incident day Genoa was exploiting practically all known and tested bird dispersal devices and it was certainly the best equipped Italian airport. Its bird strike ratio was lower if compared with other similar airports, domestic and international, confirming the effectiveness of the means in use. Minutes before the incident another runway inspection had been conducted and another airplane took-off, but there was no report pointing out bird presence on the runway. If the birds managed by chance to escape the sight of pilots or ground safety staff, they had to be observed at least by ATC controllers before the Antonov's take-off, especially if, as normal, they had used binoculars. At last I agreed with the ornithologist conclusions.

I also tried to extend the number of involved subjects, as potentially responsible for various reasons for a bird strike, like the air carrier for its flight manuals and pre-flight check procedures, flight crew training and information; the crew itself for their flight planning, especially in airports where bird hazard was renowned, and for the possibility of requiring pre take-off inspections when in doubt; I insisted very strongly about ATC controller's duties, as specified in ICAO DOCs, stressing that they were the only ones who might talk with the air crew in real time. I also tried to demonstrate, citing studies and researches, the role played by landfills close to airports, like at Genoa, and the potential liability of the municipalities that were running them.

As for the Court consultant, first of all he noticed that the damage estimate proposed by the plaintiff had not been objected to by anybody, and in fact this was the only uncontroversial and common opinion in the trial. Then he stated his opinions answering the judge.

Some considerations arise from evidence and witness examination: that the impact occurred in flight after take-off, that the flight crew did not call emergency for unknown reasons, and that the aircraft was far heavier than recorded in the flight documentation and carrier statements. Furthermore the crew did not have Genoa airport notams, including that warning on bird presence. It confirmed that 10 minutes before the incident another runway inspection was carried out, and that it did not report bird presence while all preventative and harassment means were working at the time.

Considering the visibility tests conducted with gull models, he also believes that the birds could be seen by an observer situated on the ground at least from 500 mt. and that, if they had actually been there, a lot of people might have seen them. He therefore concludes that they were not on the runway, and their presence on the bordering field was unlikely, considering the inspection car movements along the runway and the tall grass, unpleasant to gulls.

Furthermore some more details can be achieved from the take-off reconstruction based on the few data (FDR) provided by the air carrier: in particular a strange beginning of a braking action appears some seconds before rotation. The suspicion is that the captain saw the gulls flying, instinctively braked but immediately after he gave up as the aircraft was dangerously heavy for such a runway, more than reported in the loadsheet, although within the MTOW: the aircraft weight would have made difficult a rejected take off.

Genoa airport was equipped with bird strike prevention and dispersal devices used in the best domestic and international airports. The airport location on the sea and a very close landfill increase the risk of a bird strike. Other detection systems are possible (e.g. infra-red systems). Flight crew information procedures may be improved: a remark on the AIP cannot be sufficient: the bird strike warning should be reported on navigation and landing charts as well as to set up a proper ATIS frequency.

THE SENTENCE

Generally speaking, the conclusions reached by the Court expert led to defining the impact as "accidental", and very close to the defendant's conclusions.

However the Court completely disregarded its consultant's technical report.

- 1) According to the judge, **it was not an accidental event**; an event is accidental when it is due to

natural facts, abnormal and unforeseeable, and it is unavoidable by adopting a normal diligence. The prevention system set up to face the bird hazard failed, as there was an excessive reliance in technical devices, neglecting the human factor. The Court reconstruction of the events stated that the gulls came from outside the airport and crossed the runway, probably flying to the outer dam, but the consequent impact cannot be considered accidental in this case for the following reasons. The flight lasted from 90 seconds to 3 minutes at a height of 15/30 mt. and was absolutely perceivable. Therefore it was not sudden or hedge-hopping. The gulls were flying from the right side of the runway in the full field of vision of the TWR controllers; unfortunately they usually watch the runway, but they were able to see the flock approaching if they had looked to their right side. The same applies to the runway inspection staff: controls had been carried out before aircraft movements, but nobody looked at birds during take-off. This originated a “hole” in the control system that can be defined as an “organizational inadequacy” both in bird dispersal service and in the ATC.

- 2) **The incident was avoidable:** if only a human armed surveillance patrol had been located by the airport operator in the northwest corner of the airfield, they would immediately have been able to sight the flock, to scare it or even to kill some birds. In any case they would have been able to stop the airplane before a dangerous takeoff.
- 3) There are also some **joint causes:** there are a great deal of Aviation Authority warnings to airport operators concerning bird hazard, but no real control over their compliance or application by operators and the ATS. No Aviation Authority contacted the local Municipalities for the risk posed by the landfill close to the airport, despite a recent law passed by ENAC even to remove all attractive factors around airports.
- 4) Operating an airport can be defined as a dangerous activity, and in the case of a coastal airport close to a landfill it is much more dangerous. According to the Italian Civil Code, it requires the adoption of all suitable methods for preventing incidents. Besides technical devices it requires first of all a human monitoring. **“Normal” or “average” behaviours are not enough:** it needs to go beyond ordinary diligence. Airport operators therefore have to test and experience a joint use of technical and human resources.
- 5) **The Airport Operator is responsible** for not having adopted suitable harassment means, and in particular for not having set up armed patrols for a continuous monitoring: 35% of damage compensation.
- 6) **ENAV (ATS Agency) is responsible** for not having complied to its duties concerning flight safety, in particular for not having instructed its controllers to look at all possible hazards in all directions: 35% of damage compensation;
- 7) **Negligence on the part of the Ministry of Transport (CAA)** can be identified in the lack of control over its peripheral structures (Airport Authorities) and in the lack of action by these in respect of the airport operator and ATS: 22.5 % of damage compensation;
- 8) The former airport operator is another minor responsible: sub-contracting an airport by one company to another does not imply the removal of liability especially for safety issues: 7.5 % of damage compensation

COMMENTS

Commenting on a sentence after having been part of it is a hard task; the first thing to say is that the only two Italian bird strike cases have been judged by the same man, even if the first sentence was confirmed in the following appeal: and this is an evident limitation.

Many doubts then arise on when an event can be defined accidental; the bird flight reconstruction made by the

Court is questionable, as many other possibilities exist about a sudden and unforeseeable runway crossing. The human factor in bird strike prevention is certainly important, but everybody should agree on the fact that an airport cannot be considered a sort of "Fort Alamo" where rifles and other firearms can easily be carried and used in the airside.

But, above all, defining an international airport as a dangerous activity (like a nuclear plant in a developing country) is something hard to accept in the third millennium. It implies that the airport operator must prove he has adopted all suitable means to avoid accidents. That's what the Romans called "probatio diabolica" (devilish evidence) and leads to a judgement of "objective liability", i.e. when a subject is liable regardless of a fault.

Unfortunately what has been achieved for the airlines with the Warsaw Convention in terms of liability limitation, is still far from being achieved for airport operators.

On the contrary, some of the Court statements can be accepted, especially in the field of ATC duties and lack of effective controls by the proper aviation Authorities.

CONCLUSIONS

In brief, what can this sentence teach to the aviation industry?

To airport operators:

- 1 Always follow the Aviation Authority regulations;
- 2 In default of these, follow ICAO standards and IBSC recommendations;
- 3 Prevention costs less than an incident: invest resources in safety;
- 4 Supply with documentary evidences the prevention and harassment actions performed;
- 5 Ask the proper Authorities to remove landfills and other attractive factors within 13 km.;
- 6 Emphasize information on bird hazard to flight crew. Many airport managers believe that the silence is the best strategy. This trial indeed teaches that judges prefer active behaviours rather than passive (which are also difficult to explain after a serious incident).

To ATC Agencies:

- 1 Flight safety is a primary issue: don't limit the activity to "standard" behaviours;
- 2 Don't just look out only, "search" for any danger over 360°;
- 3 Give complete information on wildlife presence and movements;
- 4 Be proactive: do what pilots should do: when in doubt ask for a runway inspection before clearing to take off and landing.

To Airport Authorities:

- 1 Issue clear, precise, binding procedures to be adopted for prevention and bird dispersal;
- 2 Exercise control over their enforcement;
- 3 Supply with documentary evidence the attention given to this problem.

To Airlines:

- 1 Make flight crew aware with recurrent training of bird strike issues; air carriers should not allow their crew to leave without notams of destination and alternate airports.
- 2 Arrange proper flight manuals;
- 3 Make bird strike reports mandatory.

To Pilots:

- 1 Be informed of wildlife situation in the airport you're flying to;
- 2 Ask for runway inspections if necessary.

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