

DFS AVIATION OCCURRENCES BRIEF AND 3RD QUARTER REVIEW SEPTEMBER 2012

INFORMATION BASED ON 36 OCCURRENCE REPORTS SUBMITTED DURING SEPTEMBER 2012

Rotary Wing

UH-1 - After the engine start-up, the crew noticed the tail rotor chip detector caution light illuminated. The crew completed the engine shut down and canceled the flight (*System/component failure or malfunction*).

SA-330 - During engines start-up, the engine # 2 fire warning light illuminated. The engine was shut down. Ground technicians attributed the problem to a false indication (*System/component failure or malfunction*).

SA-330 - During engines starting, # 2 engine exhaust gases temperature exceeded normal parameters. The engines were shut down. Technical staff attributed the malfunction to a fuel misadjustment on the starting system (*System/component failure or malfunction*).

Bell - 212 - At cruise flight, the combining gearbox pressure indicator showed a high pressure indication. The crew decided to return and landed safely at departing airport. Ground technicians attributed the

abnormal pressure to a blocked system breather (*System/component failure or malfunction*).

Bell - 212 - During the take off while conducting a night training flight, the crew heard an abnormal noise coming from the main rotor system. The crew decided to return and landed safely. After engines shutdown and when performing a visual inspection, the crew found a piece of plastic stuck at the leading edge of one of the main rotor blades (*Other*).

Mi-8 AMT - On the ground and while following the established procedures for loading passengers and cargo, the crew received from MOVCON two manifested firearms (pistols). After placing the weapons in the respective compartment at the crew cabin, one of the guns inadvertently discharged causing material damage to the helicopter. The flight was cancelled (*Other*).

Mi-8 AMT - While performing the post-flight inspection, the crew identified a fluid leak in the hydraulic system main reservoir (*System/component failure or malfunction*).

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Please note the new occurrence category based on ECCAIRS classification. The information published in this report is based on Occurrence Reports submitted and completed by missions by the end of the month and is subject to change. For more information on selected occurrence refer to the Aviation Inspection and Recommendation Module or contact the Aviation Safety Section.



DFS AVIATION OCCURRENCES BRIEF SEPTEMBER 2012

Mi-8 MTV - During the pre-flight, the crew detected a bullet hole in the rear part of the helicopter (tail rotor pylon). The crew could not determine if the damage was caused during the previous flight or while parked on the ground (*Other*).

Mi-8 MTV - While en-route, the crew noticed a malfunction in the autopilot system. The aircraft landed safely at destination (*System/component failure or malfunction*).

Mi-8 MTV - In the process of taxiing to the parking area, the helicopter taxied through an uneven terrain. In consequence the main rotor blades flapped and slightly contacted the Wire Strike Protection System installed on the top of helicopter cabin. As a result, several main rotor blades were scratched (*Other*).

Mi-8 MTV - During cruise flight, the crew noticed a sudden increase in the main rotor RPM exceeding the normal operational range. The crew decided to return to the departure airport and landed safely (*System/component failure or malfunction*).

Mi-8 MTV - 10 minutes after departure, the crew noticed abnormal low-frequency vibrations and decided to return to departure airport. The aircraft landed uneventfully. A post flight inspection revealed moisture in one of the main rotor blades section that caused a misbalance in the main rotor system (*System/component failure or malfunction*).

Mi-8 MTV - While performing flight systems check after engines start-up, the aircrew noticed that the engines were out of parameters. Thereafter, the aircrew decided to shutdown the engines (*Power plant failure or malfunction*).

Mi-8 MTV - During the pre-flight inspection, the crew noticed the electronic engine regulator warning light illuminated. The crew cancelled the flight (*Power plant failure or malfunction*).

Mi-8 MTV - After take off, the crew heard an abnormal noise from the engine compartment and decided to conduct a precautionary landing. After landing and engines shut down, the crew detected

one of the engine compartment was not secured properly. After securing the engine compartment the helicopter continued with the assigned task uneventfully (*Other*).

Mi- 8 MTV - After engines start, the crew noticed a discrepancy in the right engine RPM idle speed. The crew completed the engines shut down and requested maintenance assistance (*Powerplant failure or malfunction*).

Mi-17 - During cruise flight, the crew experienced a hydraulic system problem and decided to perform a precautionary landing on the road 18 NM from the destination. After rectification of the hydraulic malfunction the engines failed to start due to a faulty battery (*System/component failure or malfunction*).

Mi-26 - On engines start, the crew detected a malfunction of the engines starting system. The flight was cancelled (*System/component failure or malfunction*).

Mi-26 - While take off, the crew noticed a warning light indicating the obstruction of the engine fuel filters. The flight was cancelled. After a safe landing, a maintenance inspection revealed contamination elements in the fuel filters as well as contamination in the fuel samples obtained from the fuel tanks (*Others*).

Mi-26 - After landing and before engines shut down, the crew was alerted by the troops providing security at the HLS to take off immediately due to hostile activity in the area. The crew managed to take off and departed the area uneventfully (*Security Related*).

Fixed Wing

Beechcraft 200 - During the climb to cruise altitude, the passenger noticed fumes and smoke in the passenger cabin. The crew confirmed the presence of smoke. After following the abnormal procedures and informing the ATC, they returned as soon as practicable to the departing airport. The aircraft landed safely (*Fire/Smoke non-impact*).

Beechcraft 1900 - Taxiing to the runway, the crew observed a vehicle (Local taxi) in front, crossing the taxi-



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way in use. The crew stopped the aircraft and awaited until the vehicle vacated the taxiway before continuing to the runway for take off (*Other*).

Beechcraft 1900 - During initial climb after take off, the crew noticed a rapid increase in the right engine torque while simultaneously experience a decrease in the right engine RPM. The crew reduced power in the affected engine and decided to return to departing airport. The aircraft landed safely. On the ground, the technicians detected a right engine bleed air system malfunction (*Power plant failure or malfunction*).

Beechcraft 1900 - After take-off, the crew tried to retract the flaps unsuccessfully. The crew decided to divert to Home airport for maintenance assistance (*System/component failure or malfunction*).

Beechcraft 1900 - While climbing to cruise altitude through 10,000', ATC cleared an opposite traffic to descend on the same route and simultaneously cleared the aircraft to climb to FL 20'0. Since the crew had the opposite traffic on the TCAS 5 NM away and above descending into the aircraft, the crew executed a steep climb in order to avoid the opposite traffic. The crew assessed that if no action have been taken, it could lead the event to a RA or a collision risk (*ATM/CNS*).

CRJ-200 - During the preflight procedures, the crew discovered a discrepancy in a selector valve of the nose landing gear door . The flight was cancelled (*System/component failure or malfunction*).

CRJ-200 - During the post-flight inspection, the crew detected traces of blood and other fluids in the left wing root, # 1 engine cowl and # 1 engine blades. No material damage was reported (*Birdstrike*).

DHC-8 - On initial climb and after landing gear was selected up, the crew noticed the # 2 hydraulic pump caution light illuminated. Following the abnormal procedures, the crew managed to extend the landing gear and landed safely at departing airport. Ground technicians confirmed a hydraulic pump malfunction (*System/component failure or malfunction*).

DHC-8 - When conducting a routine maintenance inspection, the ground crew detected a fluid leak from the Hydraulic # 2 system. The leak was caused by a broken seal (*System/component failure or malfunction*).

DHC-7 - While the crew was preparing for the flight, one crew detected a malfunction in his seat harness locking mechanism. The flight was cancelled (*System/component failure or malfunction*).

DHC-7 - During engines start, the # 1 propeller came out of feather on its own. The crew tried to feather the propeller unsuccessfully. The crew decided to return to the parking area for maintenance assistance (*System/component failure or malfunction*).

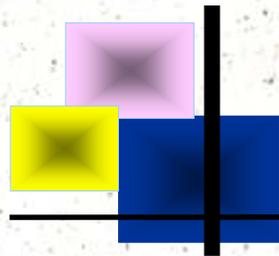
DHC-7 - During engines start, the ground crew noticed oil weeping from the aft drain of Eng #2 cowling. The crew was advised to shut down the engines. A technical inspection revealed a faulty o-ring in # 2 engine (*System/component failure or malfunction*).

DHC-7 - After departure and climbing to cruise altitude, the cargo door vent became unlatched. The aircraft depressurized and the crew returned for landing. Landing was completed without incident. Once on the ground maintenance was called and the vent was re-latched (*System/component failure or malfunction*).

DHC-7 - During taxiing to the parking area, the crew noticed the # 4 engine fire warning indication. The crew did not see any fire or smoke indication but following the abnormal procedures, the crew decided to evacuate all passengers and crew onboard. Post flight inspection confirmed a false indication (*System/component failure or malfunction*).

DHC-7 - At cruise flight, a high pitch noise was heard in the passengers cabin. There was a small leak coming from the main passenger door seal but the aircraft did not loss pressurization. During the descent the noise stopped (*System/component failure or malfunction*).

Boeing 737 - When turning to base leg for landing, another aircraft disregarded the ATC instructions and simultaneously turned to base leg. The traffic returned to downwind leg after receiving ATC instructions (*AIRPROX*).




OR AND HR 3RD 2012 REVIEW

THIS SUMMARY IS BASED ON THE DATA COMPLETED IN THE INSPECTIONS AND RECOMMENDATIONS MODULE DURING 3RD QUARTER OF 2012. ANY DISCREPANCIES SHOULD BE REPORTED TO THE AVIATION SAFETY SECTION, LSD/DFS.

	<i>Total 3Q</i>	<i>Total 2012</i>
<i>Occurrences</i>	<i>108</i>	<i>321</i>
<i>Hazards</i>	<i>53</i>	<i>173</i>

HAZARD REPORTS REVIEW

JULY - AUGUST - SEPTEMBER 2012

Among the most relevant HR reported during the 3Q (53), common hazards reported are attributed to potential risk observed in: a) conditions of aerodromes and HLS (16), b) deficiencies in the quality of ground services (12), c) deficiencies related to Air Traffic Control services (5), d) security and limited access system related (4) e) cabin safety events (4), and fire safety events (4) among others (see page 6).

Among the most significant hazards: Aerodromes and HLS deficiencies related to poor conditions of airstrips and HLS (10), obstacles located along the departure and approaching paths of airstrips and HLS, risk for FOD (1) and poor aeronautical services provided (1).

Deficiencies in the quality of ground services: involving

risks for poor packing of Dangerous Goods (4), unsafe driving procedures while approaching the aircraft (3), and poor marshalling (2) are among the most relevant.



Poor condition of Tarmac is a potential risk for damage to the landing gears, propellers and a source for FOD (Reported by MONUSCO).

OCCURRENCE REPORTS REVIEW

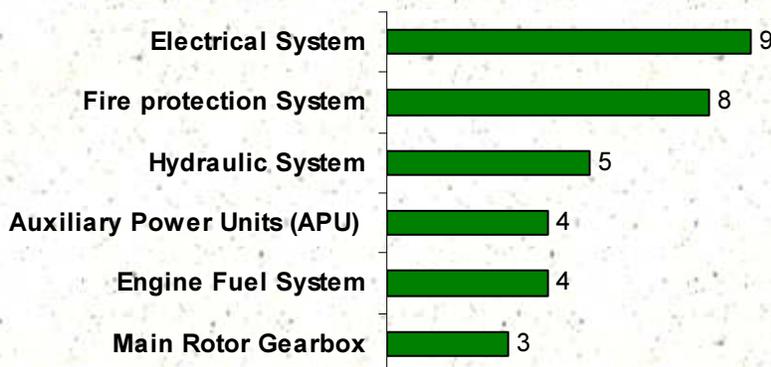
JULY - AUGUST - SEPTEMBER 2012

This occurrences review is based on the ECCAIRS categorization and the nature given to each OR submitted.

During 3rd Quarter 2012; System Components and Power Plant malfunctions (70), Other (18), ATM/CNS (4), and Fire and Smoke non impact (3) are attributed as the leading categories of occurrences in DFS aviation (see page 6).

As previous Quarters, Technical occurrences are the leading nature of occurrences. Besides Power Plants in general (15), the major causes of the technical occurrences are depicted in the following chart:

Top Technical Causes 3Q 2012



OR AND HR 3RD QUARTER 2012 REVIEW



During the pre-flight, the crew detected a bullet hole in the helicopter's vertical stabilizer (Mi-8 MTV).

Four (4) "Air Traffic Management (ATM/CNS)" occurrences were submitted during the 3Q period. Three events involved directly the ATC for authorizing opposite traffic for landing simultaneously at the same runway or descending at the same route with risk of collision. One event involved an aircraft not following ATC instruction while at the traffic pattern.



Weapon inadvertently discharged causing material damage to the helicopter. Apparently weapon's chamber was not cleared before it was handled over to the crew (Mi-8 AMT).

Three (3) "Fire or Smoke non impact related" occurrences were reported during the 3Q. One caused by an overheated flaps motor (BE-200), one as the result of a faulty oil cooler fan (Mi-8 MTV) and one attributed to an engine teardown (C-130).

Three (3) "Security Related" events were submitted, one related to the security on the Ramp due to unlawful entry to the aircraft by unknown personnel and two involving hostile acts against UN aircraft. Only material damages were reported.

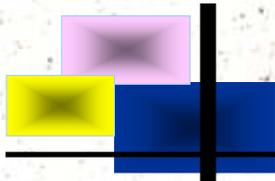


Crew was not alerted on the conditions of the airstrip and got stuck in the mud while taxiing to its parking area (DHC-7)

Twenty (20) occurrences were reported as "Other" during this period. Among these type of occurrences, four (4) events reflected deficiencies in the quality of the cargo manifests. Two events of those are related to the wrong cargo weight depicted in the cargo manifest while two more involved incomplete information on the description of the cargo. The rest of the events are individual occurrences and cannot be grouped together.

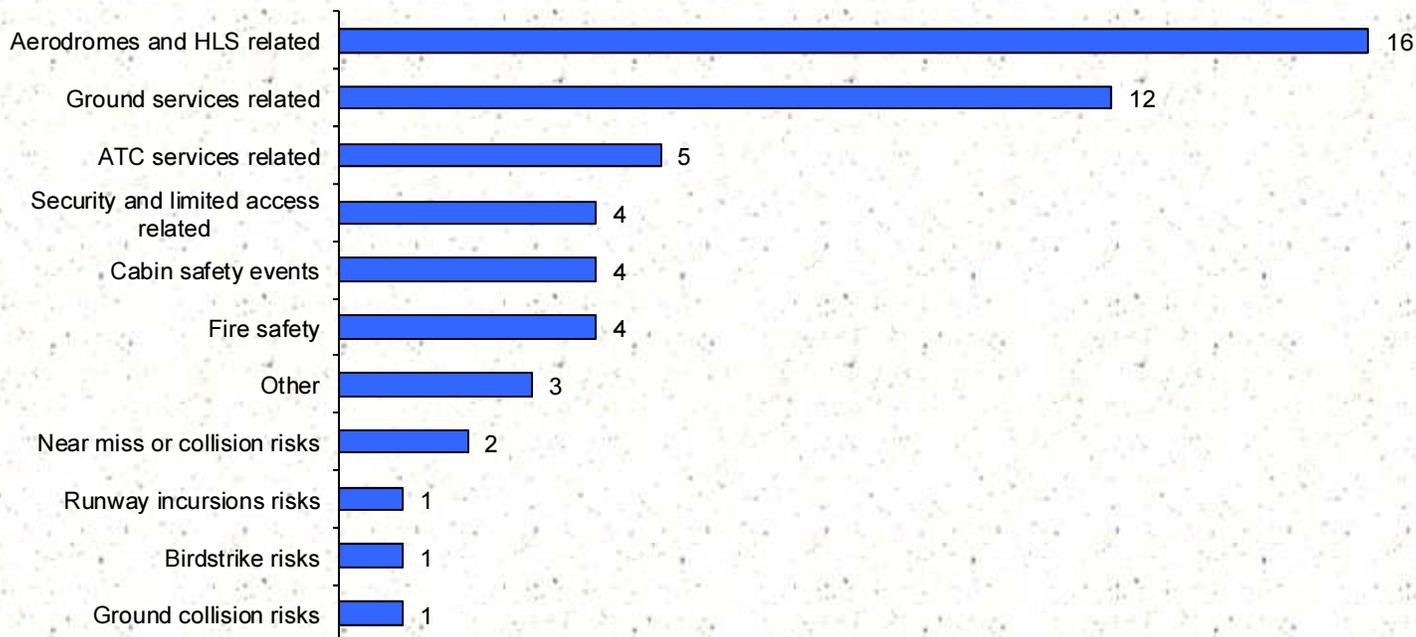


While on the ground, a rapid change in weather with wind gusts up to 50 Kts twisted one of the main rotor blades. The engines were not operating (Mi-8 MTV).

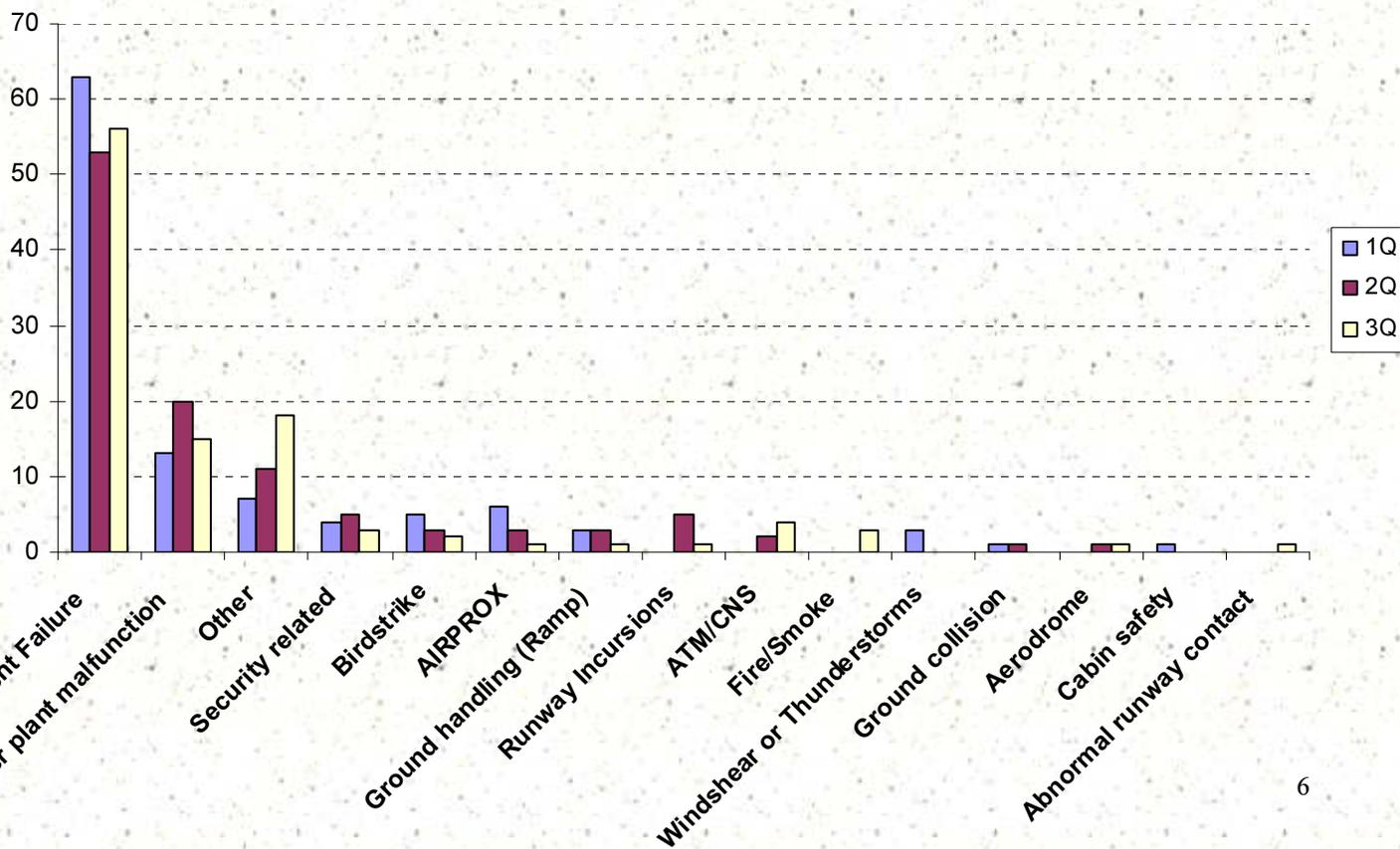


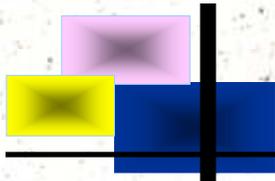
OR AND HR 3RD QUARTER 2012 REVIEW

**HR per Category
3Q 2012**



**OR per Category
Quarterly Comparison 2012**





STATUS OF 2011 DFS ACCIDENT INVESTIGATIONS

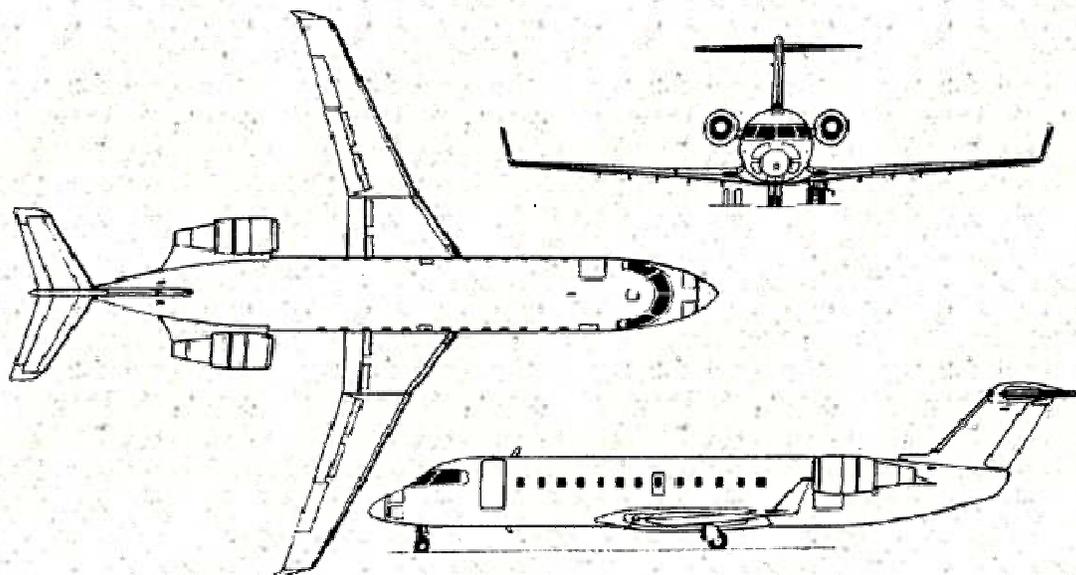
On 4 April 2011, the aircraft type CRJ-100, registration 4L-GAE, call sign UNO-834, operated by Georgian Airways in MONUSCO, impacted with the ground during its final approach, approximately 170 meters to the left of the runway centerline. As a result of the impact, the aircraft was destroyed and 32 out of 33 crew and passengers on board were fatally injured.

On 27 February 2012 TSB – Canada organized a meeting with all members of the Investigation Team in the headquarters of the aircraft manufacturer Bombardier in Montreal, Canada in order to receive a detailed briefing by Bombar-

dier's expert on all technical aspects of the ill fated flight based on the data from the aircraft flight recorders.

On 08 June 2012, the Investigator-In-Charge released the draft investigation report to all members of the Investigation Team for their inputs and comments.

In accordance with the provisions of ICAO Annex 13, the Authorized Representatives of DFS submitted their comments and inputs on 07 August 2012.



Information is presented solely for the purpose of improving aviation safety awareness and accident prevention efforts and may not be used in disciplinary or legal proceedings.

A lesson from Icarus

Icarus and his father Daedalus the famous Greek architect and inventor were invited by King Minos of Crete in order to prepare a prison for the son of Minos' wife and guarantee that would not be able to escape and place at risk the Minos reign. After completing the prison, King Minos feared that Daedalus and Icarus could reveal his secret and instead of letting them free kept them under his surveillance and custody.

Daedalus prepared two pairs of wings for their escape, which consisted of bird's feathers and wax. He instructed his son Icarus to avoid flying too close to the sun or too close to the sea for a safe flight.

Unfortunately Icarus did not fly as instructed and when he was too close to the sun he lost the feathers of his wings and as result he went down to the sea near by an island that bears his name ever since.

The legend has at least three levels of reading from: the simple one of disobeying to instructions of those who know better is dangerous (ASU), the second is that someone may not be careless about powers/ dangers not evaluated properly (ORM) and the third the ways of an initiated person have a great risk of failure that sometimes the result is death.

Of course this is only a myth, but this could be the first Aviation Accident recorded in history. Aircraft today have reached a higher degree of safety, but humans have not changed and day

after day are still making the same old mistakes. Human Factor is yet the highest contributor to Aviation Accidents, and seldom, if ever, an accident is the result of a single cause.

Mission's Aviation Safety Programme therefore, involves identifying and eliminating these hazards before the chain of events is complete. Just like Icarus, anyone can easily become part of this fatal chain.



In DFS Aviation, there are rules and regulations to be followed not only by crew and ground personnel but also by all Mission Staff. You know very well that aircraft are special places and cannot be compared with a ground vehicle that can be boarded at the last minute, showing up with no reservation, load whatever you want, start the engines and just go... Aviation is quite different; there are mandatory safety procedures to be performed before taking off, and behind each flight there is a lot of preparatory work to be carried out.

What is expected from every Mission Staff (civilian and military) when flying in DFS? The answer is very simple: Checking-in on time, declaring Dangerous Goods, carrying not more than the allowed weight, following the instructions given by MOVCON & aircrew, and report any Aviation Safety Hazards. This would be the best contribution that you can give to Aviation Safety and will keep you away from becoming a statistic or perhaps a myth.