

# AIR RESCUE REPORT

International Commission for Alpine Rescue

Kommission für Luftrettung • Commission pour le Sauvetage Aérien • Commission for Air Rescue



# IKAR-CISA

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## INTRODUCTION:

This year's congress was hosted by Gorskie Ochotnicze Pogotowie Ratunkowe (GOPR). Eighteen countries were represented: Austria, Bulgaria, Canada, Croatia, Czech Republic, France, Germany, Greece, Italy, Monte Negro, Norway, Poland, Slovenia, Slovakia, Sweden, Switzerland, United Kingdom and United States of America. Of note this year is that long time representative from the United States National Park Service, Ken Phillips, has moved on to new responsibilities. He was missed by all of his colleagues on the Commission. Casey Ping of Star Flight, Austin County, Texas was welcomed as the replacement for Ken. The Air Rescue Commission meetings were chaired by its President, Patrick Fauchère.

## ACCIDENTS & INCIDENT REVIEWS FROM MEMBER COUNTRIES:

### **Switzerland, BH206, wire strike**

There were no rescue accidents this year but 4 accidents, one with three fatalities. The fatal accident (wire strike) was in a BH206 in known high wire environment.

### **Switzerland, Lama SA315B, iced up door bubble**

While evacuating a chairlift with a long line during cold conditions (-25C), the pilot lost vertical reference due to fogging and icing in the door bubble. The rescuer was briefly pulled up as he was attached to the chair. Thanks to a proper two way radio the rescuer could advise the pilot to correct the situation.

### **Canada, crash AS350B3**

During a Class D training exercise with police tactical teams, an AS350B3 crashed killing the pilot who was the lone occupant. The training had been suspended due to wet snow. Eventually, as conditions did not improve, the pilot departed for Vancouver with a vertical departure due to confined space. At 80 feet AGL, the engine quit and the helicopter crashed.



### **Sweden, EC135, line release**

During an engine failure simulation in an EC135, with a simulated Class D load, the pilot released the line as he was descending and having difficulty controlling the load due to high winds. There were no injuries or damage to the aircraft.



### **Italy, EC145, wire strike, crash**

During takeoff, a HEMS helicopter struck wires and crashed. The crew of two (pilot and engineer) were only slightly injured. The helicopter was destroyed.



### **Austria, EC135, near miss**

In order to pick up a patient during a HEMS operation, the pilot landed in the snow covered yard of a house. The yard was covered with a lot of snow and the pilot did not realize that he was actually landing on top of a swimming pool. As he began to lower collective to shut down he realized he was on water covered in snow. He lifted off and repositioned the helicopter.



### **Austria, EC135, paraglider**

A paraglider had landed in a gully and had a leg injury. The helicopter crew using fixed line techniques tried to approach the patient but as the rescuer approached the victim, the chute inflated and the patient was dragged further down the gully.

<http://www.oe24.at/oesterreich/chronik/tirol/Drama-nach-Paragleit-Absturz/61643317>

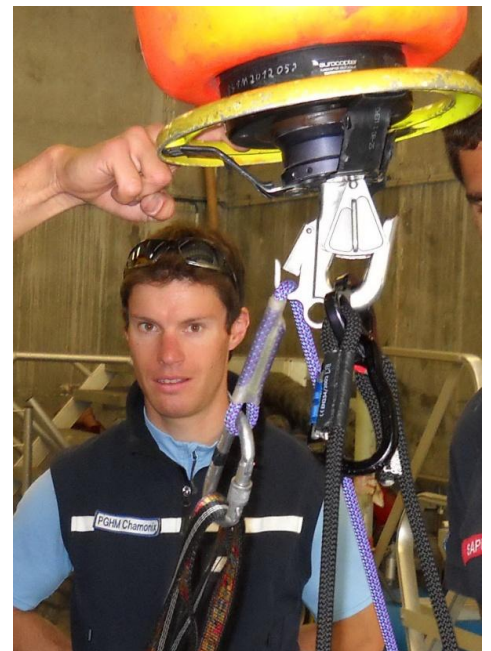
### **Austria, MD902, release of Class D load**

During a recovery operation for a crevasse victim using a fixed line, three rescuers were released from the hook. This was the second day of the operation. On day one, the victim had been located and declared deceased by the physician at the accident site. At the end of day one though, it had not been possible to extricate the victim. On day two, with high winds and poor visibility, a police helicopter that was used on the first day of the operation was grounded due to weather. A second HEMS helicopter was dispatched to the scene and attempted to insert a crew of three to the crevasse site including two rescuers and one police officer. The pilot was unable to get the crew right to the site due to low ceiling. As he was attempting to place them as high as possible, he started to lose visibility with the cloud layer lowering. As he thought the rescue team was on the ground or close to it, he released the load in order to escape. The three people were higher above ground than expected. When they impacted the ground from an unknown height, the two rescuers were injured and the police officer was fatally injured. The helicopter landed without further incident. They were evacuated by ground rescue teams. The crevasse victim was recovered the following day.



### **France, EC145, entanglement, near miss**

During a hoisting operation at about 3500 metres late in the day (9PM), 3 exhausted climbers were being evacuated from the Gervasutti Ridge of the Tacul North Face. One rescuer was hoisted down to the anchor consisting of slings wrapped around a horn. The plan was to hoist two people at a time and ferry them to the cold du Midi below where one other rescuer had been dropped off. When the first two people were hoisted up, the leashes from the other two climbers got caught on the secondary hook of the Goodrich hoist. The anchor slings were lifted up and all four people ended up hanging on the hoist. Given the elevation and power requirements, the pilot was unable to maintain a hover. He was faced with either trying to take get all four people down safely or jettisoning the load. He was able to get all four down to the col and land without further incident. The hoist and engine limits were exceeded but no damage ensued. There was a lot of discussion on entanglement issues and how to prevent them.





### **France, EC145, rotor wash incident**

A rescuer and a doctor were injured by falling trees during a hoisting operation. A climber had fallen on a via ferrata. His lanyard broke during the fall and he fell into the trees below. One rescuer was hoisted down into the forest to attempt to locate the victim. Once on the ground the rotor wash caused a tree to fall onto the rescuer. He sustained serious injuries. Subsequently, a doctor was hoisted down in a different location nearby to tend to the



injured rescuer. After the rescuer was packaged with the doctor as attendant, the helicopter returned to extract them both. As the helicopter was hovering, another tree came down further injuring the rescuer as well as the doctor. The evacuation of both was then done by ground but this was complicated by the steepness of the terrain. The original victim was located deceased and also evacuated by ground. The investigation that ensued revealed that rock scaling done during the creation of the via ferrata had created considerable damage to the base of the trees below the route. This root damage made them more susceptible to falling. Both of the injured crew have recovered.

### **Norway, C-130, crash**

Although this was not a helicopter crash, it is noteworthy because of the scale of the response. This was a major search with joint coordination between Sweden and Norway. A C130, Super Hercules of the Norwegian Air Force was dispatched while participating in a military exercise. The aircraft disappeared from radar over the Kebnekaise mountain range near Kiruna, northern Sweden. A major search was undertaken with over 100 searchers, snowmobilers and skiers. After three days of searching in poor weather, the wreckage was found by another P3-Orion fixed wing aircraft. Initial attempts to access the site by Danish helicopters, one Norwegian Sea King and two Swedish helicopters were unsuccessful due to weather. Some of the remains were eventually recovered including the cockpit voice recorder. All five crew members on board were killed. The incident is still under investigation.



### **Norway, Sea King, jettison of hoist cable.**

During a complex rescue for two missing ice climbers, the Sea King crew cut the cable during an attempt at a hoist extraction. When the accident site was found, it was determined that the climbing party had been hit by massive Rockfall. They were located at the base of the waterfall and presumed deceased. Due to the steepness of the terrain and the risk of further Rockfall and icefall, rescuers were hoisted a few hundred metres below. They then climbed in to the accident site. A super long line extraction using the two hoists on board and with ropes rigged at the accident site was attempted. One victim (deceased) was in the stretcher but not yet attached to the helicopter. As the helicopter was hovering, the cloud base descended and enveloped the cockpit. The hoist hook had been lowered. The crew cut the cable and descended to the left in IFR conditions. The aircraft was able to land safely. The recovery was completed the following day in good weather.



### **Poland, Sokół W-3A, rotor strike**

TOPR SAR was responding to a call of an injured climber who had sustained a 50 metre fall on the west face of Kościelec at 1850 metres. The crew consisted of two pilots, a hoist operator, a paramedic and a rescuer. The pilots decided to deploy the two rescuers below the face with a hover exit procedure rather than through hoisting. As they were approaching the site and about 1.5 metres AGL, a rock from above hit the main rotor blades. The shock was felt by the whole crew. The pilots aborted and landed uneventfully below. The blades sustained considerable damage. The victim was evacuated by ground. A set of blades from the Polish Border guard was sent in four days later using an MI-8. It is speculated that the rock was dislodged by people on the route above the hovering helicopter.



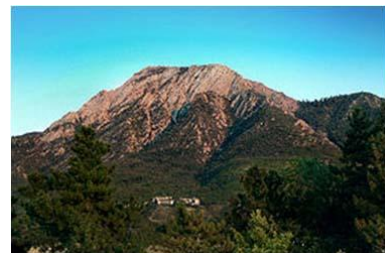
**Greece, BH205, hoist cable failure**

During a hoisting exercise over a small vessel, the cable on the hoist failed as the rescuer was just above the vessel. There were no injuries. The cause of the hoist failure is unknown.



**United States of America, AS350B2, Crew fatality**

A rescue crew with the department of public safety responded to injured hikers on the Mt. Olympus trail near Salt Lake City, Utah. The aircraft was unable to lift off with the whole crew and the victims. Tactical flight Officer Aaron Beesley was left at the scene and was to be picked up on a second evolution. When the crew returned he was found deceased at the bottom of a 20 metre cliff. It is speculated that he fell while trying to retrieve a pack.



**United States of America, Bell HH-1H, rotor strike**

A crew from Las Vegas Metro Police Aviation was evacuating stranded hikers from a canyon during a training for SAR personnel. The first evolution was done with a toe in. Upon returning, due to changing winds and the aircraft running out of left pedal, the pilot elected to perform a one skid landing on the right. Upon departure, the main rotor blades struck the ground but he was able to fly away without further incident. Crew Chief fatigue may have been a factor.



**United States of America, AS365, Crash**

During a US Coast Guard training mission off the coast of Alabama, the crew encountered poor visibility resulting in the pilot losing reference. As he turned to the right to try and regain reference, he impacted the water. It is estimated that the helicopter impacted the water at 70 knots from 200 feet AGL with a descent rate of 1500 FPM.





**United States of America, AS365,**

While responding to a victim in the water near Los Angeles California, a US Coast Guard helicopter had the number one engine shut down after establishing a hover. The pilot in command immediately initiated one engine inoperative (OEI) procedures and was able to transition to forward flight. The Co-Pilot initiated a restart of the #1 engine and the crew flew successfully to local airport. The engine shut down was initiated by the Co-pilots NVG cord on the helmet getting caught in the engine control switch.



**United States of America, BH 407, crash**

During an operation for injured snowmobiler, a crew of three aboard the contracted Teton County Wyoming SAR helicopter crashed. As the pilot was establishing a hover, he experienced an unexpected yaw which he thought he corrected. The helicopter then began to spin rapidly and crashed into the trees below. The pilot was able to get out and crawl to a ridge to call for help. One of the other crew members was injured and one was killed in the crash. Due to communication issues, it took 75 minutes for help to get to the crash scene.



**United States of America, Boeing Chinook, rescuer fatality**

During the rescue of 4 injured climbers on Mt. Rainier in Washington, a rescuer fell 2400 feet to his death. The climbing party of four had sustained a fall on steep ice. After hoisting of the first victim, the helicopter was delivering a stretcher for the second victim. The rescuer went to receive the litter and it is believed that the rotor wash knocked him off balance.



**United States of America, AS350B3, rotor strike**

During the evacuation attempt for an injured hiker in the Trinity National Forest, a rescuer was struck by the main rotor blades as he was walking away from the helicopter. The California Highway Patrol helicopter was shutting down near the victim at the time. The rescuer had taken off his helmet and was critically injured. He was immediately treated by the physician on the crew. The helicopter had not sustained damage and was able to fly the injured rescuer to the hospital. The rescuer has survived.



**United States of America, BH407, near miss**

During a HEMS mission in San Antonio Texas, the helicopter struck a tower and sustained substantial damage to the landing gear. The pilot requested an emergency landing at the hospital on top of mattresses but was denied. This procedure was done in a nearby field and the helicopter landed safely.



**Australia, AW 139, rescuer jettison, fatality**

During the rescue of an injured canyoneer at Carrington Falls in Buddero National Park, a rescuer was fatally injured after possible contact with terrain while being extracted via hoist. The helicopter crew had previously determined that they were unable to insert the rescuers via hoist because of terrain. One of the rescuers accessed the location by rappelling into the steep terrain. The victim was moved to an area where extrication via hoist was determined to be an option. The incident occurred while the rescuer and victim were being hoisted. It is believed that after contact with the terrain, the helicopter crew lowered the rescuer and victim to the ground. The rescuer was unable to detach from the hoist cable forcing the helicopter crew to cut the hoist cable. The second rescuer then rappelled to the accident site and began caring for first rescuer. Unfortunately the first rescuer succumbed to his injuries before he could be extricated. The recovery and evacuation of the original victim and rescuer's body was completed the following day.





## PRESENTATIONS:

### **Dent du Géant, night rescue operation – France**

Patrick Guillout of the Gendarmerie Nationale described a technical night hoisting operation with the use of night vision goggles in 2011. He described the challenges associated with horizontal and vertical reference. The PGHM was responding to a climber in a team of three who was stuck at the end of a rappel rope and was hanging. The other two climbers at the anchor above were unable to assist the climber who became unconscious from hanging in his harness. In failing light, near the end of the day, the pilot



attempted to hoist a rescuer directly onto the victim. Due to strong down-flowing winds the pilot was unable to maintain a hover and aborted the hoisting operation. The crew returned to base and briefed for an attempt to insert a rescue team onto the summit at night. The physician was dropped off at the base of the spire and three rescuers were hoisted onto the small summit. The pilot was able to use the statue of the virgin on the second summit as reference to maintain a hover. The operation was successful and the patient was delivered to the hospital at 1:20 AM. The technical, operational and regulatory limitations of such an operation were presented. There was discussion from the group on training and limitations with NVG operations as well as possible impeding regulations from EASA.

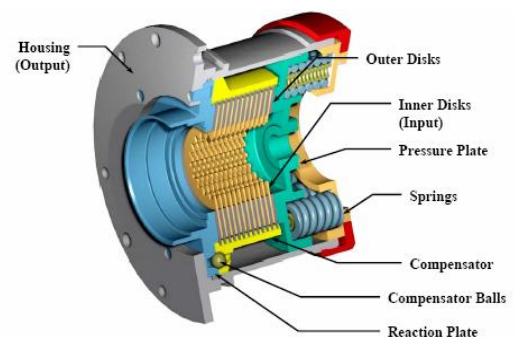
### **Class D operations, medical considerations-Switzerland**

Dr. Alex Kottmann of Rega discussed the potential forces that can be generated on the human body in both fixed line and hoisting operations. He described the injuries that can result from such forces and the situations when such shock forces can occur. In conclusion, it was suggested that consideration may be warranted for dynamic lanyards or incorporating shock absorbers that are used in climbing applications in the system



### **Reactive overload clutch, Breeze Eastern**

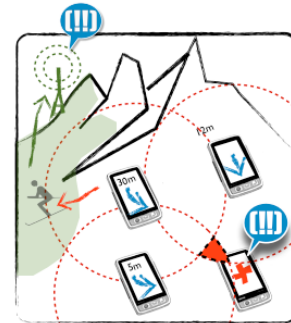
Geoff Dinsdale of the UK presented the features of Breeze Eastern hoists that enhance the safety and performance of hoists. The clutch is designed to attenuate shock loads. This not only can prevent the



cable from breaking but also can ensure the success of the mission. Shock loading is more of a concern in nautical applications where a vessel and subjects can move up and down considerably depending on the amount of swell. The techniques used to test shock loads on hoists were also shown. The reactive overload clutch is unique to Breeze Eastern.

### **Smart phone development for searching, UEPAA, Swiss Alpine Technology**

UEPAA, Swiss Alpine Technology Mathias Hausmann showed the development of a new Peer to Peer technology that could be used to automatically link smart phones together. The concept is to support avalanche companion rescue and for areas that have no GSM coverage, smart phones could act as individual repeaters all linked to each other automatically. This allows tracking alpinists in remote areas or allows calling for rescue from such disconnected areas. This would enhance range for search operations from helicopters with last known positions and increase range from areas far beyond today's GSM coverage. It would also allow searching from altitudes up to 1000m.



### **France – Mountain rescue with IFR/NVG**

Michel Pierre presented the night flying rescue operations in the Sécurité Civile of France. They are using an IFR certified EC145. Extensive initial and recurrency training is required for the pilots. In addition, flights into airports can only be done with facilities that can accommodate IFR flights. This includes a variety of



land and satellite beacons for effective and safe instrument approaches. The Global Navigation Satellite System (GNSS) is in use in a number of airports in France and is in development for a number of hospital heliports. Currently, the Sécurité Civile is one of the few helicopter operators in France with the capacity to develop and operate with this type of flying. All of their aircraft are set up to receive the Galileo satellite system that in the future will allow them to benefit from the high precision EGNOS IFR tracking system. It was pointed out that there are still limitations to the equipment and that these flights are not possible in all weather and nighttime conditions. Careful decision making on the part of the pilot is critical to safe operations.

### **Germany – Web based training application**

Klaus Opperer of the German Bergwacht presented an option for training large groups by using web based applications. The advantage is when dealing with large groups of volunteers, some of the basic information for training can be delivered much more easily.

### **Poland - Air Rescue and human external cargo.**

Marcin Wiktorzak of GOPR gave a comprehensive history of helicopter rescue in Poland. The first helicopters doing air rescue work were Russian SM2 single engine piston helicopters. These were later followed by Russian designed and Polish built Mil-2 twin engine aircraft. Poland is a country of 38 million people with seventeen rescue bases established in the country. Four of these bases are assigned to mountain rescue operations. Launch times from these bases is typically around 3 minutes.



For ten years after 1989, the responsibility for HEMS was turned over to the State Health authority. In 2008, a tendering process was initiated to replace the MIL-2 aircraft with a fleet of 23 EC135 helicopters. This was completed in 2010.

### **IKAR/CISA 2013**

It will be held in, Croatia on October 15 - 20, 2012