

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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PREPARED BY

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INTRODUCTION:

This year's congress was hosted by the Mountain Rescue Organization, the National Police and the Mountain Safety Council. Eighteen countries were represented: Austria, Bulgaria, Canada, Croatia, Czech Republic, France, Germany, Greece, Italy, Monte Negro, Norway, Poland, Slovenia, Slovakia, Spain, Sweden, Switzerland, and United States of America. ICAR/CISA and the European Helicopter and Air Ambulance Committee (EHAC) are now Associate Members of their respective associations. This will provide a more unified voice on matters pertaining to the European Safety Agency (EASA). The Air Rescue Commission meetings were chaired by its President, Patrick Fauchère.

ACCIDENTS & INCIDENT REVIEWS FROM MEMBER COUNTRIES:

Switzerland, Hoisting incident

While hoisting an injured cyclist in treed terrain, the rotor wash caused a branch to break off a tree. The doctor was on the ground when the branch hit the patient furthering his injuries. The aircraft was an Augusta 109 DaVinci. Similar incidents have happened in the past particularly with the modern generation aircraft that are bigger and have more downwash. Discussion ensued on how best to protect patients or victims in these incidents including the option of using helmets. However, this can be contraindicated with head and spinal injuries.



Italy, Hoisting incident

In June 2011, during a hoist deployment from 50 metres, two rescuers were preparing to descend. The HEMS aircraft, a BK117 C1 with a Goodrich hoist is based in Bolzano. They were attached to the hoist and the operator started to actuate the hoist. The cable cutoff function was triggered uncommanded.

Fortunately, the rescuers who were standing on the skid, were still attached to a hard point inside the aircraft and did not fall out of the helicopter.

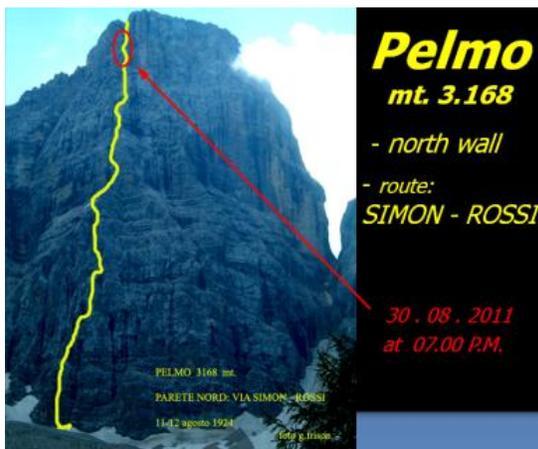
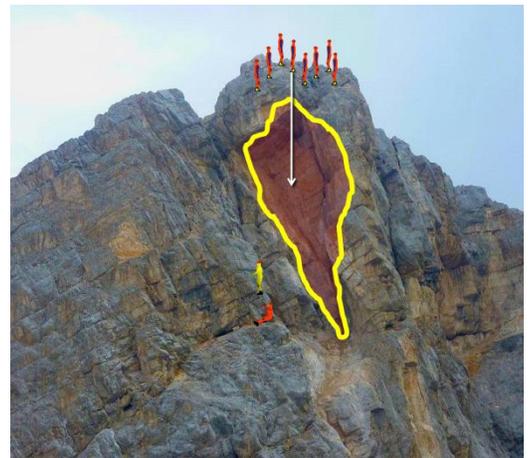
Subsequent investigation revealed a short circuit in the remote control handle and a short circuit as the cause. An

Airworthiness Directive was issued by EASA to deactivate this hoist type until the problem was solved and corrected.



Italy, Rockfall

This is a very tragic accident. It was not an aircraft incident but is recounted here because unsuccessful attempts were made to insert a rescue team with a helicopter. Two climbers were stranded near the top of the North wall of Pelmo in the Dolomites. After climbing the Simon Rossi route, one of them sustained a leg injury within 100 metres of the summit and they were unable to continue. Bad weather precluded inserting rescuers at the site or at the top with a helicopter. At nightfall, a rescue team climbed the normal route to the summit and two rescuers were lowered towards the injured climbers at 5:05 AM. As they began the descent a massive rockfall occurred at the summit with an estimated 3000 cubic metres of rock. Both rescuers were fatally crushed. Their remains were recovered near at the base.



Canada, Cable strike

A Sikorsky 76 BC Air ambulance was loaded with a patient who had fallen roughly 15 feet into a water-filled ditch while pruning trees from a tractor bucket, injuring his back. The helicopter had landed on the road beside the accident site.

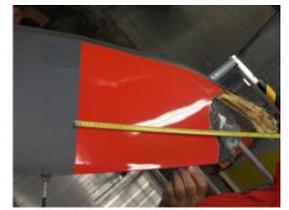
As the aircraft was departing, it turned to the left and as it started to gain altitude it struck overhead phone lines. The pilot apparently had not realized that as the aircraft was turning, it drifted to the right underneath the phone lines. The pilot was able to land uneventfully in a field beside the road where he had landed. The patient was taken to hospital by ground ambulance.



France, Rotor Strike

In July 2011, while picking up an injured hiker in a partial landing, an EC145 struck terrain with the main rotor blades. The site was on trail at 2134 metres in the Lac Blanc area of the Chamonix Valley. This toe-in landing involved an experienced crew who considered it a "simple" mission.

As the helicopter was lifting off the main blades struck terrain. As there was no place to land nearby, the pilot continued lifting and descended to the valley below. He was able to land uneventfully. The blades sustained significant damage and needed replacing.



France- ACCIDENT

A Eurocopter AS350 B3 helicopter from Chamonix Mount Blanc Helicopter crashed on September 14th after a collision with a wire. All four occupants were killed. The machine crashed near the French-Swiss Border on a power line control flight and was caught fire following the accident. The pilot was a well experienced pilot and also mountain guide.



Austria - Crash

On March 30, 2011 during forward flight an EC 135 impacted into Lake Achensee in Tyrol, 40 km east of Innsbruck, at high speed. All four crew members on board died. The recovery efforts took four days with many rescuers and divers. This is a deep lake and the crew and helicopter were recovered at a depth of 100 metres. The weather at the time of the accident was clear and calm. The accident is still under investigation but so far no causes have been determined. The pilot was reported to have 2,500 flight hours and the aircraft was relatively new with only 1300 flight hours.



Austria - Flight control issue

As a civilian Bell 412 was departing the rooftop heliport at Innsbruck hospital, it began to yaw in both directions and the pilot almost lost control. The pilot was able to regain control and fly away. He landed uneventfully at the nearby airport. It is speculated that perhaps full rotor RPM had not been reached prior to take-off.

United States (Arizona)- LITTER SPINNING INCIDENT

The Phoenix Police Department- Air Support Unit experienced a severe litter spinning event during a helicopter hoisting operation on December 22, 2010. Following a fall on Piestewa Peak, a 52-year-old hiker suffering neck and back pain, was packaged in a Stokes litter inside a Bauman Bag for a hoist extraction with an A109 Power helicopter.



The stationary hoisting evolution was performed from an altitude of 200 ft (61 m) AGL with a 250 foot (76 m) tag line tended by a ground rescuer. The



patient had been packaged in a Stokes Litter which was placed inside a Bauman Bag. No attendant is employed due to the decreased hoist speed. The tagline was connected into the master attachment point of the Bauman Bag and the normal procedure involved having the aircraft remain directly overhead. This orientation permitted the tagline to block the litter from spinning. On this date the aircraft moved laterally away from the scene causing the tagline to be at an acute angle and spinning of the litter quickly developed. The spinning became severe to the point that the hoist evolution could not initially be completed safely.

Following this event, agency personnel evaluated the connection point configuration and made a modification for placement along a support strand of the Bauman Bag reaching down to the foot end of the litter. The revised connection includes the use of a shackle quick release along with an in-line breakaway weak link.

United States (Texas) - HOIST TRAINING INCIDENT

During a tree hoist rescue training exercise in Travis County, Texas on July 24, 2009 a rescuer was involved in an incident which dramatically damaged their harness. The exercise was being conducted with members of Texas Task Force-1 and a National Guard UH-60 to simulate hoist rescue operations of subjects from trees during extreme seasonal flooding conditions. During a hoist extraction of a rescuer along with a "victim" in a rescue stop the helicopter drifted forward causing a tree branch to become positioned between the rescuer and hoist cable. As the hoist extraction proceeded, the branch tore downward at the harness connection point. The full body rescue harness partially failed causing the rescuer to become inverted. The training evolution was completed without further incident or injury.



In post analysis of this exercise, the following "best practices" for tree hoisting operations were compiled:

- Employ a slow and methodical approach to permit adequate decision-making and mission planning. Review exact route and landmarks
- During approach over the scene the crew chief and rescuer should take the opportunity to communicate a very detailed rescue and access plan
- Establish a hover at 100-120 ft (30-36m) permitting rotor wash to open tree canopy
- Do not permit cable slack to develop to the rescuer which would create entanglement
- The extraction should be planned and slow, since there is no returning a rescuer to a branch once airborne
- Finally, manage all aircraft drift immediately

United States (Florida) - ACCIDENT

On May 27, 2011 the Bay County Sheriff's Department (Florida) experienced the crash of a department OH-58 (military version of Bell 206A Jet Ranger) during a search incident response. The aircraft was preparing to depart for a missing persons search from a hangar at the recently-closed Panama City-Bay County International Airport (PFN), Panama City, Florida. The helicopter was temporarily housed in a large hangar, and ground support equipment, including wheel dollies, had been moved to the unit's new location at a new airport. The helicopter had flown in and out of the hangar on numerous occasions; however, during the accident flight, while attempting to depart from inside the hangar, hangar ceiling tiles dislodged and went through the main rotor system. The pilot lost control and the helicopter impacted the ground.



United States (Florida) - ACCIDENT

Two days later, on May 29, 2011, another OH-58 crash was experienced by the St. Lucie County Sheriff's Department (Florida) during a search operation in Fort Pierce, Florida. The helicopter was called to assist in a search for a possible ejected passenger from a vehicle that was involved in a rollover accident near a highway on ramp. The helicopter was about 300 feet (91m) above ground level (AGL) when it climbed in a southeast direction to about 400 feet AGL (122m). As the helicopter was heading back to the north-northwest, it began to spin as the nose went up and down. It continued to spin and finally dropped on its skids in the grass median between the highway and the on ramp. The pilot received minor injuries and the helicopter incurred substantial damage.



United States (California) NEAR-MISS INCIDENT

The U.S. Navy grounded two pilots and investigated a near-miss at Lake Tahoe (CA) following the release of civilian cell phone video footage taken on September 13, 2011. The video shows two MH-60 Romeo helicopters close to the water when one dangerously dips into the lake (see YouTube- "New Detail From Choppers' Dip in Lake Tahoe NBC Bay Area"). The helicopters, based at Naval Air Station North Island (San Diego, CA), were returning from an air show near Sacramento. Lake Tahoe is not on the direct route between Sacramento and San Diego. Following the incident the aircraft landed at the Lake Tahoe Airport and the involved crew flew home via commercial air transport. Although not specifically rescue related, the incident reinforces the need to avoid deviating from the planned mission.



United States (New Mexico) NTSB ACCIDENT REPORT RELEASED

The June 9, 2009 accident (*reviewed in 2009 IKAR Air Rescue Report*) resulted in two fatalities, when the New Mexico State Police Augusta A109E crashed during a rescue in the Pecos Wilderness (Santa Fe National Forest) near Santa Fe, New Mexico.



The NTSB published the probable cause as, “pilot’s decision to take off from a remote, mountainous landing site in dark (moonless) night, windy, instrument meteorological conditions.” More significantly the report listed the following contributing factors;

- An organizational culture that prioritized mission execution over safety
- Pilot’s fatigue, self-induced pressure & situational stress
- Failure to conduct mission risk assessment



Finally the NTSB made the following sharp statement:

“NMSP personnel did not regularly follow the SAR plan.... and did not routinely communicate directly with SAR commanders during SAR efforts. This reduced the safety of SAR missions.”

(<http://www.nts.gov/doclib/reports/2011/AAR1104.pdf>)

Australia (Queensland) - HOIST ACCIDENT REPORT RELEASED

The Australian Transport Safety Bureau released a final investigative report regarding the November 9, 2009 hoisting accident. This accident seriously injured two crew members, when the hoist cable failed and they fell approximately 50 ft (16 m) onto deck of the ship. The event occurred when a Bell 412 operated by Torres Strait Ambulance rendezvoused with a container ship (Maersk Duffield) to evacuate an ill crew member.



The rescue involved conducting the hoist operation from near the forecastle mast on the bow of the vessel. As the rescue crew officer (RCO) and paramedic were lowered by, the pilot lost sight of the ship. Shortly after, the helicopter began



drifting back towards a mast that was located on the forecastle. Despite assistance from the hoist operator to re-establish the hover, the pilot was unable to arrest the helicopter's movement and the hoist cable became fouled while the helicopter continued to drift rearwards. The winch cable separated.

The investigation identified that the requirement to confirm adequate hover reference existed overhead an intended hoist area, before deploying personnel on the hoist, was left to the pilot's discretion. In this instance the pilot, despite his extensive experience, did not identify the possibility of losing sight of the ship, and therefore the necessary hover reference. No formal risk assessment of the proposed task was conducted, although the potential hazards associated with the movement of the ship were considered during the planning.

Additionally it was found that the failure of the cable appeared to have occurred below its rated strength. The investigative report stated that the, "*combination of abrasion and bending may have contributed to the separation of the cable at a load below the static load required to activate the overload clutch.*"

<http://www.atsb.gov.au/media/2904238/ao2009068.pdf#page=0>

South Africa- Uncommanded Jettison of Short-Haul Load

A police rescuer fell five-six feet (1.5-2 m) during a January 2011 helicopter short-haul extraction. The Incident occurred during a body recovery operation being conducted by the South African Police with a BO-105 helicopter. This mechanical “uncommanded jettison” was caused by the pilot’s cargo hook foot release not automatically returning to the locked position. This mechanism requires that it be manually reset.

A decision was made to short-haul the police officer from the accident scene before returning for the body. The load was lifted five-six feet (1.5-2 m) and a power check completed. At the precise moment that the pilot began to continue the lift, the hook mechanism opened and dropped the officer back to the ground. The cargo hook’s release mechanism requires a physical re-cocking action in order to properly engage the lock. This re-cocking action had not occurred, but the cargo hook appeared to be in the locked position when the short-haul line system was connected, however it was not. There was at least one other similar incident of uncommanded jettison before the load was lifted that occurred as well. The agency issued a warning notice on the incident.



PRESENTATIONS:

Field Demonstration, Åre

During the field day, the Swedish police and search and rescue volunteers did a hoisting demonstration with the EC135. A doghandler team was hoisted to a site where they searched and located a missing person. A volunteer rescuer was then hoisted to the site to treat the patient. The patient and rescuer were then hoisted into the helicopter.



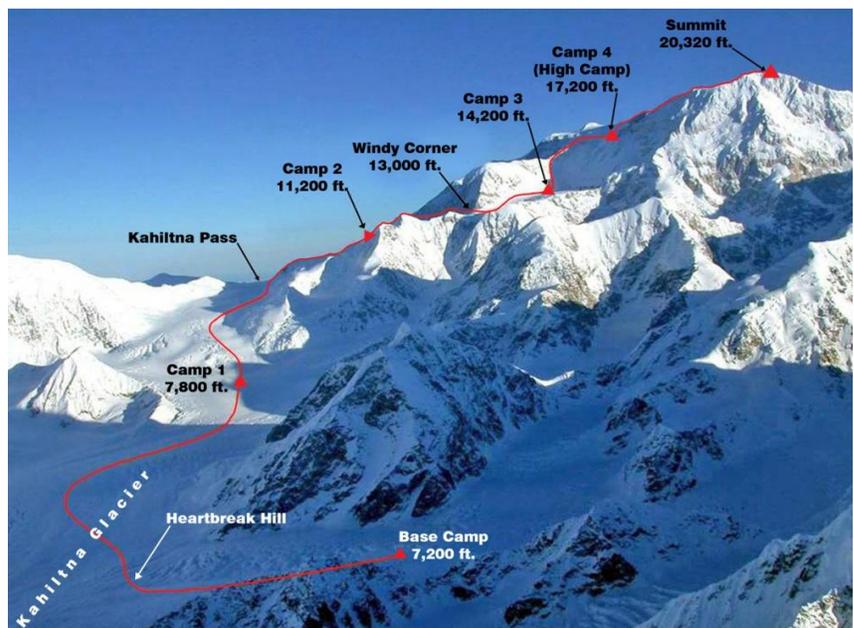
Specialized hoisting operations - France

Patrick Guillout presented a video of a technique used in specific circumstances. Where this is high objective hazard or where conditions are not conducive for the rescuer to get off the hook, they use a technique where the lanyard for the victim or patient is run through a self blocking pulley. Once the victim is attached, the lanyard is pulled tight through the pulley. The line that the victim is attached to can then be cut. Specific criteria have to be met prior to contemplating this technique. This includes sufficient power reserves and stable air that allows longer than normal hovering times.



United States (Alaska) - SHORT-HAUL RESCUE- Denali National Park

A record setting helicopter short-haul rescue for the highest ever in North America was conducted on May 12, 2011. This operation was conducted at an elevation of 19,500 feet (5,943 m), which is below the 20,320 feet (6194 m) summit of Denali. This mission was performed by the NPS helicopter, an Eurocopter AS350 B3 on contract from Temsco and piloted by Andy Hermansky.



The Denali Helicopter Short-Haul Program employs either a rescuer, who remains attached to the line, or the delivery of a collapsible rescue basket (39 pounds /17.6 kg). A family radio (FMRS) is tapped just above the basket to allow the pilot to provide instructions to a subject on the ground. The preferred short haul line length is 120-150 ft (36-45 m) to provide the depth perception and communication. Although longer length can be employed for even greater clearance from mountain turbulence, the added length involves a much slower insertion to the rescue site.

On May 11 at 2330 hours a roped team of four climbers sustained a fall on Pig Hill (600 ft /183m) final ascent to summit. One team member was left at the Football Field- 19,800 ft (6,035 m). The initial report was received at 0346 hours after a second climber was left above Denali Pass at 18, 200 ft (5,547 m).

This rescue involved a complex aviation operation, which included a temporary flight restriction (TFR) of the airspace being initiated. A total of five aircraft were involved in the rescue including a C-130 (flying overhead providing high altitude wind information), CH-47 Chinook (considered for high altitude landing), two aeromedical helicopters and the NPS AS350B3. One planning consideration included the possible use of High Altitude Supplementary Oxygen System. This 3-liter cylinder with on- demand mechanism permits unacclimatized person to operate at 18,000 ft (5,486 m) for 16 hours (mfg- Summit Oxygen, United Kingdom).

The climber at the Football Field was extracted using the rescue basket technique and flown to Kahiltna Base Camp (7,200 ft/ 2,195 m). Following that evolution a rescue evolution was conducted for the second climber above Denali Pass. During a reconnaissance flight no subject movement was observed. A short-haul evolution was initiated from Camp IV- 14,200 feet (4,330 m) with NPS Ranger Kevin Wright remaining on the line (18, 200 ft/5,547 m) to extract the patient, who had died from exposure. The following day the remaining two climbers in the party were also rescued at the 17,200 ft (5,243 m) Camp.



Lessons Learned:

- The initial reconnaissance flight with a short-haul rescuer on board at 19,500 feet (5,943 m) was considered crucial in checking performance at this altitude for the weight of two persons.
- An extra daisy chain hook up for the patient above Denali Pass was extremely quick and efficient. It would be difficult and time consuming to rig a screamer suit on the unresponsive and stiff patient.
- Dexamethasone for rescuer- no adverse effects from altitude (day 7 on mountain – two short flights to 19,000 ft/5,791m)
- Used warm gloves with tether. Quick transition to latex gloves underneath for patient care and carabiner operation
- No rescuer pack employed due to weight constraints. The rescuer stayed clipped to the line, however suggest a small 15-20 lbs (6-9 kg) pack for contingencies.

DISCUSSION: There are distinct advantages with a pilot-only short-haul operation permitting the aircraft to remain clear of terrain. The review included a comparison to the November 6, 2010 Fishtail Air Accident on Ama Dablam, which killed Pilot Sabin Basnet and Engineer Purna Awale at 20,860 feet (6,358m)

EASA REVISION UPDATE- AC 27/29.865B- External Load Attaching Means
AC27/29.865 external loads guidance presents controversial issues mainly due to difference between EU and US applicable standards, in particular when the load is a human being.

Terminology:

- **HEC** Human External Cargo
- **NHEC** Non Human External Cargo
- **PCDS** Personnel Carrying Device System- The entire attached or suspended system used to carry HEC. This is any HEC carrying configuration such as a suspended (e.g., hoist, cable, harness) HEC system or an attached (e.g., a rigid basket or cage attached to skids) HEC system.
- **QRS** Quick Release System
- **DAD** Dual Actuation Device (DAD)- This is a sequential control that requires two distinct actions in series for actuation.



Applicable changes to this regulation include:

- One single paragraph regarding cargo hooks
- Long line approvals
- Hoist man attachments
- Intercom system
- Flight testing
- Primary Quick Release System (PQRS) and QRS
- Dual Activation Device

AERIAL HAZARD - First Person Video (FPV) Unmanned Aerial Vehicles (UAV)

The use of RC (remote controlled) aircraft equipped to transmit real-time video to an operator wearing VR (virtual reality) goggles is rapidly becoming a pursuit that is growing in global popularity.

One group, referred to as “The R/C Daredevils”, Team BlackSheep is growing in small groups of people all over the world who share this passion for FPV. Through social media awareness and online internet sales of this equipment, the growth is substantial. For the air



rescue community this is a potential in-flight hazard that all personnel should become aware of. This involves UAV aircraft with 54-inch (137 cm) wingspans which may be difficult to see-and-avoid.

Video at <http://www.team-blacksheep.com/>

FACTORS HAVING POSITIVE INFLUENCE ON SHORTENING ACTIVATION AND APPROACH TIMES OF HEMS BASES (IKAR MEDCOM)

IKAR Medical Commission (MEDCOM) presented the following conclusions: The study reviewed 6,000 HEMS missions in four countries (Spain, Switzerland, Slovenia and Austria)

1. Helicopter operator is a private company, not state owned (e.g. police, army),
2. Helicopter is dedicated and equipped only for HEMS (including mountain rescue),
3. HEMS base is integrated in EMS of particular country,
4. Dispatching is performed by specialized, integrated regional dispatching centers,
5. HEMS can only be directly activated only by dispatching center,
6. There is only one mediator between emergency call and HEMS base,
7. All HEMS team members are on the same location in HEMS base close to the helicopter,
8. The distance from neighboring HEMS base is around 90 km (56 miles),
9. HEMS has more HEMS bases,
10. Operation area is up to 10,000 square km (6,213 sq miles),
11. Higher number of missions per year (at least 600),
12. Doctors are employed by private organizations,
13. Helicopter are equipped with hoist or fixed line (short haul),
14. Doctors are trained to use hoist or fixed line (short haul),
15. Modern helicopters with short ignition (pre-takeoff) phase,
16. More than 20 years experience,
17. Financing mostly on commercial basis (insurance), not from state budget (influence of the market, competition, etc)

Norway- SAFETY MANAGEMENT SYSTEM

Norwegian Air Ambulance (Norsk Luftambulans) employs an occurrence and hazard reporting system, known as Alethia, which is derived from the Greek word for “truth.” This is part of their organizational safety management system (SMS). The program is aimed at developing a culture of openness within their organization. An online reporting form is employed to communicate incidents and hazards. This effort leads to a reduction of risk probability or occurrence through corrective and preventative actions.



Additional Safety Practices:

- Automated documentation to provide verification that safety bulletins are read by employees.
- Aircrews employ Polycom Wireless Radio systems between the ground and the aircraft, which provides instant quality assurance (QA) of aircrew hand signals being employed.
- All crew members attend one week of field training annually to refresh skills.
- HEC 90 day recurrency requirement for all personnel including pilot, doctor and HEMS crew member.

Switzerland- HOIST OPERATIONS IN FORESTS (Air Glaciers)

Switzerland – HOIST OPERATIONS IN FORESTS (Air-Glaciers / REGA)

The following list of risk reduction practices was prepared by REGA to provide for improved safety. The list provided by Rega is now in use by Air Glaciers and the Walliser Rescue Organisation (OCVS). Within the OCVS there are additional discussions on how to protect the patient as well as first responders or ambulance personnel.

- Perform an initial safe reconnaissance well above the accident site.
- Make direct radio contact with ground personnel at the accident and make an accurate determination of the situation
- Do not insert rescue personnel by hoist directly down upon on top of the victim
- Provide for adequate clearance above the forest canopy during rescue to minimize rotor downwash against the vegetation
- Move the patient to an open location for extraction
- Begin hoisting insertion of rescuer as far away as possible
- While monitoring helicopter performance, make any flight changes slowly
- Minimize the number of ground personnel exposed beneath the helicopter
- Personnel in the exposed danger zone must wear a helmet if possible

- In the area of a forestry accident, consider cutting down additional trees to enlarge the extraction site
- Look up and have an awareness of what is going on above you during a hoisting operation

Switzerland - AVALANCHE MASS CASUALTY RESPONSE

Swiss rescuers responded to a mass-casualty incident following an avalanche in the Vallon de Valsorey on March 26, 2011. Eleven touring skiers were involved in the incident with ten persons buried. There was confusion with the exact location initially due to other recent avalanches being visible from the air. The objective dangers encountered at the site included deep snow, overhanging slopes not cleared, no emergency exit, narrow valley and flight traffic involving 11 helicopters. Additionally there was confusing information about engaged forces by Dispatch Center 144.

Difficulties encountered with incident communication included; rescue channel overloaded, no mobile phone coverage, no visual overview of avalanche site, prioritization of air traffic communication and German-French language barrier.



Engaged Forces By Emergency Dispatch Center 144 Include:

- 11 helicopters
- 6 emergency physicians
- 8 avalanche dogs
- 20 guides Rescue Station Zermatt
- 20 guides Rescue Station Entremont
- 2 ambulances
- 1 Poste Médical Avancé (PMA) (advanced medical post)

Lessons Learned

- Challenges of numerous victims in a confined area
- Consideration for working on different radio channels. Assign frequencies to terrestrial forces independent of air crews
- Assign a flight coordinator on the ground
- Establish a medical sorting post
- Consider the risk of accident to the rescuers- be prepared to terminate efforts when risk becomes to great

Austria- SKI CHAIR LIFT RESCUE (Wolfgang Rigo)

Presentation on the revised helicopter short-haul procedure employed by Österreichischer Bergrettungsdienst Flugrettung (Austrian Mountain Rescue) in conjunction with ÖAMTC (Der Österreichische Automobil-, Motorrad- und Touring Club) operating Christophorus Air Rescue Association (AKA “Air Christophorus”). The technique is only performed by experienced well trained helicopter flight rescuers

Preparation considerations include;

- Prior consultation with the lift staff.
- Consider which chair locations need to be evacuated by helicopter due to avalanche hazard.
- Organize more HEMS crew members to assist with the overall evacuation efforts.
- Confirmation that the chairlift power is locked out of service.

Two mountain rescuers are organized with rescue rucksacks, including safety harnesses, attachment straps, lowering equipment and rescuer rappel gear. Initially this team of two rescuers is flown by fixed rope technique to the chair, where one rescuer secures a connection to the wire rope attachment point for the chair. The helicopter departs with the other rescuer. The rescuer on the chair then rappels down the front of the chair to reach the passengers. On the larger five-person ski lift chairs, which have a protective bubble to shield skiers from the weather, the protective bubble is secured upward in an open position. The persons in the chair are then secured in evacuation triangles which are anchored from above on the chair structure. The helicopter returns with the other rescuer, who remains attached to the short-haul line, and then extracts up to three subjects per evolution. Once all passengers are removed, the rescuer on the chairlift ascends back to their overhead connection point and prepares for their extraction. Helicopter returns with rescuer on fixed line and both rescuers are then transported to the next rescue evolution.



Germany- AIR RESCUE & CABLEWAY OR ROPEWAYS (Klaus Opperer)

The Bergwacht (German Mountain Rescue) has been successfully training volunteer rescuers on ski lift and gondola rescue techniques at their new dedicated training facility in Bad Tölz, Germany. The recommended procedure by this organization for an aerial ski lift rescue is to employ a ground based effort rather than a helicopter deployment technique for effective risk management. A helicopter operation should only be used to deliver a rescuer on to a ski lift, who can then conduct a rope based lowering of the skiers to the ground.



Alternatively during a gondola rescue a helicopter is used to deliver a rescuer to the roof of the gondola. The rescuer then attaches a pulley to the steel ropeway and then lowers themself down over the front side of the gondola and makes entry through the doorway. The initial rescuer prepares the victims for extraction and a second rescuer arrives via helicopter hoist. Each extracted victim is accompanied by a rescuer for the “best service to passengers.”

Germany- TEGELBERG GONDOLA RESCUE (Klaus Opperer)

On August 12, 2011 these rescue techniques were put to the test during a complex rescue on the Tegelberg Gondola, which is on the Tegleberg Mountain near Schwangau in Southern Bavaria. The gondola route is 2,146 meters (7,404 ft) in length and rises to 1,880 meters (6,170 ft). After a tandem paraglider flew into the cables, operations had to be temporarily stopped. The paraglider and instructor pilot were immediately rescued by helicopter, however the removal of the paraglider chute proved to be problematic. The material was hopelessly entangled with the wire rope. This required a complete evacuation the entire gondola system. 132 people were flown from the top station back down to the valley employing numerous helicopters. 30 passengers in the lower gondola had to be lowered by rope from a height of 70 meters (230 ft), an operation lasting into the evening. 19 passengers and the cable car operator in the upper gondola could not be rescued by helicopter until the morning of 13 August due to strong winds. Although the upper gondola was 80 Meters (260 feet) above the ground, it was in exposed terrain which was unsuitable for lowering the passengers. The rescue was completed at daybreak by helicopter hoist.



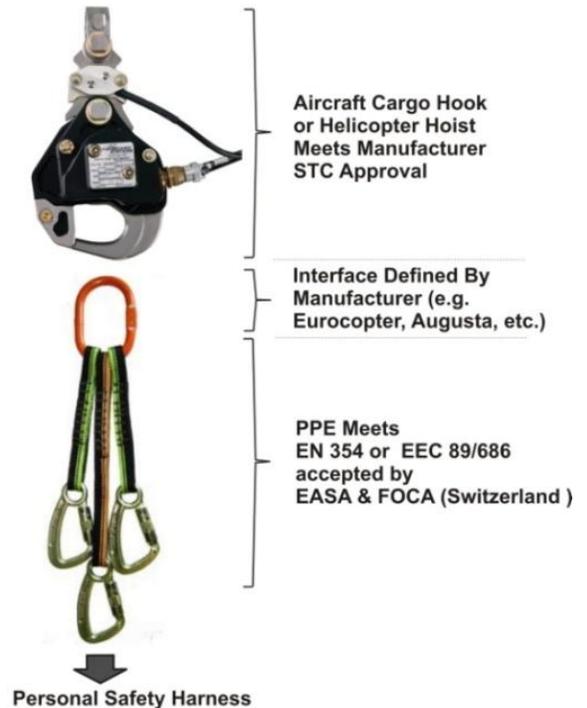
Lessons Learned:

- 200 emergency personnel involved creating complex incident organization
- Pre-planning and effective training paid off
- Effective risk management was employed
- Provided overnight support to passengers by delivery of food, clothing (Tyvek suits provided by Red Cross) and toys for kids to the upper gondola
- Mitigated media pressure by conducting upper gondola helicopter rescue at daybreak avoiding arrival of news media



CERTIFICATION OF RESCUE MATERIAL AND DEVICES, SWITZERLAND - (Enrico Ragoni)

This presentation focused on the certification process for components used in Class D fixed line work. The discussion centered on various components and the certifying bodies that currently are involved. Components from aircraft hooks, lines, interfaces and personnel carrying devices (PCD) were discussed. It was felt that for some components such as PCD, that European Norm (EN) standards were the most appropriate. Components such as aircraft hooks or hoists are approved for the aircraft type through a Supplemental Type Certificate (STC) with the regulatory body such as the Federal Office of Civil Aviation (FOCA).



IKAR/CISA 2012

It will be held in Krynica, Poland in October, 2012