



Internationale Kommission für Alpines
Rettungswesen IKAR
Kommission für Bodenrettung
Lawinenkommission



Presentations of All Commissions

Place: Vysoké Tatry, Starý Smokovec, Hotel Bellevue
Date: October 9, 2010
Time: 0815 hours
Present: Member of all commissions
Chairmen: Patrick Fauchère, Hans-Jürg Etter, Fidel Elsensohn, Bruno Jelk
Minutes: Fabienne Jelk

MFXB Patrick Fauchère, Greg Zenruffinen: Evolène 06-07 February 2010 / Surviving an Avalanche for 17 Hours

An incident which happened in Evolène, CH, is detailed. In the evening there was notification that a skier was missing and that he was not wearing an avalanche beacon. There was fresh snow, greater than 20 cm in 24 hours. It was decided to send 20 rescue specialists, divided into 3 groups, up in the gondola and to search near the slopes. At that time they recognized an avalanche that had not been triggered artificially. According to the survival curve, the chance for the missing skier was not very high anymore. Therefore, the rescue was suspended until the next morning because it was too dangerous. The next morning the weather was better. They were able to fly and were looking for signs on the avalanche field as well as with the RECCO system. During the flight, one of the rescuers noticed movement on the avalanche field. Two rescuers equipped with airbags were put down on the field and found the missing man. He had been buried for 17 hours, was conscious, had a body core temperature of 34 degrees, and no severe injuries. Following the description of this incident, they showed the survival curve. The motto is: "No one is dead until he is warm and dead". The prognosis whether or not someone is dead cannot be concluded by burial time. There have been incidents where the victims were still alive after a burial time of 23-24-48 hours. Further research is necessary.

Questions: None.

Patrick Fauchère: EASA NPA and PCDS Update

Presents a document that had been composed after the last ICAR meeting and was sent to Dr. Norbert Lohl from EASA. It is about "personal carrying devices". Four points, in particular, were demanded, which are presented by Patrick Fauchère. The document was signed by 5 people. The response was sent to Patrick Fauchère in June 2010, which stated that the different points needed to be discussed. EASA's process of establishing new norms and how they work is explained. He relates a discussion that was held, for example, at which altitude the crew and pilot should have oxygen tanks. It is very difficult to inject one's own opinion and to find compromises. The discussion also evolved around double and single

engines. Two engines are not ideal in the mountains. It is also difficult to find a compromise in this area.

Questions: None.

Marek Biskupic: Characterization of the Winter Season 2009/10 and its Consequences with Particular Emphasis on Peculiar Avalanche Accidents in the Slovakian Mountain Area

The last Slovakian winter was special. There was not much snow. October brought the first snow and then it snowed in December but especially in February and March. This showed a very special curve. There were accidents that involved rescue teams. There were above-average numbers of injured people. Two years ago there was more snow but fewer accidents. Different accidents are presented. *Dracia Valley*: 3 alpinists are involved, no burials. The rescue lasted 11 hours. All survived. An injured man's leg had to be amputated. *Ski area Jasna, Low Tatra, February 6*: 3 free-riders. The avalanche was triggered at 1600 hours, a small avalanche. One complete burial (30 minutes). Injuries: Unconscious, body temperature 33 degrees. *Cervenà Valley, High Tatra*: Avalanche, 5 alpinists, 5 buried, 2 of them completely (10 minutes), all survived. *Poludnovy grun*: 2 snowboarders, 2 buried, 1 person completely buried. *Borisov, High Fatra*: 3 Telemark skiers, 3 people caught, 2 completely buried, burial time over an hour. Summary: 23 people caught, 8 of them completely buried. Conclusion: The people underestimated the avalanche danger. The local conditions were not evaluated sufficiently. Inadequate equipment. The people thought that if there is no snow in the valley, there won't be any avalanches. The education of sportsmen needs to be improved in order to avoid such accidents.

Questions:

Do you have ideas on how to improve the education of alpinists?

Several classes are available. There is only 1 day regarding avalanches, and that is not enough. That is where improved education has to be implemented.

File: 23-HZS-Winterseason-Slovak-Mountain-Areas.pdf

Ian Tomm/Marc Ledgwick: Boulder Mountain Avalanche – March 13, 2010

Describes a significant avalanche accident in Canada on March 13, 2010. Snowmobile tours are done in large groups. A snowmobile can be driven up an incline almost vertically. A snowmobile can go practically anywhere. They also jump cliffs on snowmobiles. In this incident about 100 people were involved. Most of the snowmobilers were parked at the bottom of the run-out. It is still unclear how many people actually had been buried. The search was made significantly more difficult because of the many beacon signals. The rescue involved 12 helicopters, a great number of rescuers and dogs. Two people died, 32 were injured. The police investigated if there was still anyone missing. On day 2 it was clear that no one else was missing. The snowmobiles had to be recovered.

Ian Tomm describes what happened after the accident. This had been an organized snowmobile event. Every weekend similar events are offered. In 2008/2009 nineteen snowmobile avalanche fatalities occurred. Fifteen recommendations are issued to various organizations and offices. On March 11, 2010 there had been a special public avalanche

warning issued. The trials were supposed to be closed and the event was not supposed to happen. Another problem in this case was the regional hospital only has 10 beds. The communication between the medical personnel and the rescuers in the field was bad. The hospital did not know how many injured were still to arrive. They are now trying to find solutions/improvements in order to avoid such accidents. This is done in cooperation with the government. The media interest in the accident was very high. Six days later another avalanche accident with 1 fatality occurs under avalanche danger level 4. One of the lessons learned was that the work with the media is very important. The media influences the public and political opinion regarding prevention programs. Twelve investigators were looking into the accident. There was an extensive criminal investigation that lasted 2 months. The investigation was focused on the organizers of the event and the parents of the children that had participated in this event. The lesson learned here is that organizers of events as well as parents if children are involved can be held responsible and could be charged. They are now trying to find solutions in cooperation with the different involved offices and organizations so that accidents like this can be avoided. Snowmobile stakeholders are not yet ready to cooperate.

Questions: None.

Hans-Jürg Etter points out that we have to be prepared for large-scale accidents. Even with only 10 people involved it is possible to reach the limits. It should be thought about whether each rescue organization is ready for such an incident.

File: 24-Turob-Hill-Avalanche-Response.pdf

Jeff Boyd: Prognostic Factors in Avalanche Resuscitation

An algorithm was developed. The algorithm deals with "assessment of the extricated patient". Factors are burial time (less than 35 minutes), body temperature (greater than 32 degrees), availability of an airway, and serum potassium (7 mmol/L).

Questions: None.

File: 25-Jeff-Boyd-AvProgFactorICAR.pdf

Iztok Tomazin: Medical Standards for Mountain Rescue Operations Using Helicopters

Talks about the strategic decisions that have to be made regarding recommendations from the Medical Commission. The diagnosis for an injured person is usually attempted on site. Important factors are safety, speed, quality, cooperation, helicopter, training, equipment, and the time-lapse between the accident and admission to the hospital. HEMS has to be integrated. Time is an important factor. In case of resuscitation every second counts. Less than 5 minutes should elapse between the call and the take-off of the helicopter. One should be with the victim within 20 minutes. Each team member should have helicopter training and know, and master, his role. The helicopter should be able to take the medical personnel to the site as well as the material.

Questions: None.

File: 26-Tomazin-Medical-Standards-Helicopter-Rescue.pdf

Peter Paal: Diagnosing Death in Mountain Rescue

Topic of the presentation is resuscitation in mountain rescue. In mountain rescue one is confronted with deceased people. In Scotland there were 57 fatalities in 622 operations. Resuscitation can be dangerous depending on terrain and conditions and therefore a decision has to be made when CPR is initiated and when not. There are standards that state when resuscitation can be terminated. The factors for the decision whether or not to resuscitate are regional and national laws and policies, patient's medical directives (DNR/living will), patient's past medical history, cultural and religious context, site and mechanism of accident, likelihood that CPR will be futile. When is the patient dead? Heartbeat, spontaneous breathing, brain activity. Peter Paal shows the criteria. A special consideration are children. Sometimes it is better to transport the patient to a safe place and then resuscitate. Do not declare a person dead too early.

Questions: None.

File: 27-Paal-Clinical-Decision-Guidelines-for-Termination-of-CPR.pdf

Bruno Jelk/Gerold Biner: Air Rescue in Nepal

The presentation is about training of rescuers in Nepal. The question is whether in the future we will be able to rescue mountain climbers from great altitudes within a decent timeframe. It started in 2005 on Nanga Parbat. Tomaz Humar was stuck on the face of Nanga Parbat. It was questioned whether such a rescue is even feasible. A rescue team from Zermatt traveled to Pakistan. The rescue was ultimately executed by the Pakistanis and almost ended in a catastrophe. Following this incident, the two Pakistani pilots attended a course in Zermatt, but nevertheless, no relevant implementations were made by Pakistan and it stayed with this one rescue. Five years later Tomaz Humar was stuck on the face of Langtang Lirung in Nepal. Again a team from Zermatt traveled to Nepal. Tomaz Humar was not able to be rescued. Much time had passed until the rescue team arrived on site. The question became whether or not Tomaz Humar could have been rescued if a native rescue team had been available. A delegation from Nepal traveled to Zermatt in March 2010, including decision-makers. For 6 weeks 3 teams were put together. In each instance one mountain rescuer and one pilot traveled to Nepal starting in April 2010 in order to train rescuers in Nepal. The campaign was complicated by Maoist rebels in Kathmandu. Shortly thereafter a first emergency call came in. Nine mountain climbers were in distress on Manaslu. Seven mountain climbers could be flown out from an altitude of 6200 meters. Two people could not be found. Two days later there was an incident on Annapurna. The mountain climbers were supposed to be flown out from 6900 meters. One person had died the night before. A rescue with cable was necessary. Three mountain climbers could be flown out. The Sherpas were afraid and descended on foot. Other operations were flown. At the beginning of May the second team from Zermatt arrived. The base was moved to Lukla. On May 14 the Chinese Embassy sent the orders to rescue mountain climbers on Dhaulagiri. There was a storm. Thirteen Chinese mountain climbers and Sherpas were still on the mountain. The wind speed was 70 km/h. The rescue had to be suspended because of bad weather. The next day the team deployed again accompanied by 4 Sherpas. The mountain climbers were able to be flown out. Many alpinists were flown from MERS. One mountain climber had already died, 2 are still missing. The last operation in spring 2010 was for 2 deceased people on Everest. In July 2 Nepali pilots and 1 engineer came to Switzerland for training. The pilots, for example, were actively involved in direct rescues from Zmuttgrat (Matterhorn). In fall 2 Sherpas will

attend a course in Valais. In spring 2011 the rescuers in Nepal will put the finishing touches on their training. The conclusion was that training local/native rescuers is preferable to a "stand-by team" in Europe. The "golden hour" can only be achieved when rescue bases are erected in Lukla and Pokhara. By the time a team from Europe arrives in Nepal, it is too late at those altitudes. Also people in those areas should be able to count on rescue and that only works if the rescuers locally are trained. Often the injuries are altitude sickness. Medical care by the native population needs to be considered next. Important realization: Rescues are possible up to the listed service ceiling of the particular helicopter.

File: 28-Biner-Jelk-Flugrettung-Nepal.pdf (3 files)

Suspension of Meeting: 1215 hours until 1400 hours

Terrestrial Rescue Commission; chaired by Bruno Jelk and Gebhard Barbisch

Recommendation new systems

Bruno Jelk states that the text was translated and distributed. Is the text okay or are there objections?

The colleagues from Saxony suggest changing inspection and inspection authority to assessing and assessor, because other offices and organizations can also examine a system even if the office is not a certified inspection authority. Since other offices can also be qualified, they want to avoid TÜV being determined as sole authority.

Comment:

- It states "to be assessed by inspection authority", so it is an assessment and no change is needed.

Gebhard Barbisch adds that the text can stand the way it is, because in order to get an assessment that is also valid in court, the examination needs to be done by a licensed office. A registered engineer is also a licensed office.

Comment:

- Colleague from Saxony: Licensed offices do not necessarily have to be inspection authorities.
- Suggestion: Change out with "**an** inspection authority".

"An inspection authority" is put into the recommendation. The recommendation is then approved unanimously.

Gebhard Barbisch states that they will further discuss this next year.

Continuation of Presentations:

Chris Yannaris: Cyprus Search and Rescue Team

The Cypriot organization is a young organization. A workshop will be organized in which they will concentrate on rescues in crags. The goals and financing are explained.

Questions: None.

Hermann Brugger: Report to the „Pig Study“

This is about an experiment in avalanche burial. The experiment was not very successful because it was done with animals. The media response was negative. There have been cases where people survived over 90 minutes but we do not know why. So they wanted to find out which factors determine survival in an avalanche. Hypothermia can help for the person to survive. With pigs, the burial in an avalanche was reenacted. The pigs were anesthetized. Five trials were completed. Thereafter there was a huge media response. There were protests and the participants in the trials were threatened with death. The trials had to be terminated. There were inquiries about publishing the results in professional magazines. The results are explained by Hermann Brugger. Hypothermia can protect patients from death; however, they do need an air pocket. Also important is the serum potassium level. All hypotheses were confirmed. He then describes the case of a 44-year-old man who was buried. An air pocket was available. When he was dug out, a statement was made that he was dead because he did not have a heartbeat. The heart rate monitor, however, showed later that his heart had been working longer. During the 3 hours he was buried in the avalanche, the heart was beating. The heart stopped beating when he was dug out of the avalanche. Had the information from the study been published earlier, maybe he would have survived.

Questions: None.

Fidel Elsensohn: Report of the President of the Medical Commission

Talks about different regulations and a study that will be undertaken in order to reduce the risk for mountain rescuers. A meeting is planned next spring in Spitzbergen.

J. Ellerton: Report from the VIII World Congress on Mountain Medicine and Future Projects

Talks about the DVD "Time is Life". In 2005 a course was held in Argentina and in 2009 in Nepal. Participants were physicians and mountain guides. The third course was held in 2010 in Peru. He shows what is taught in those courses. The participants only had basic knowledge. The process of rescue had to be shown from scratch.

Reports of the Commission Presidents (Terrestrial, Avalanche, and Air Rescue)

Bruno Jelk, Terrestrial Rescue:

A practical meeting was held in the field with the emphasis on gondola and chair-lift rescue. Evacuations from chair-lifts, gondolas, hang-gliders from cables, and hang-gliders from trees were demonstrated. It was interesting to see the different techniques, which all worked. Bruno Jelk thanks the Slovakian Mountain Rescue for the well-organized meeting as well as

the members presenting them. Several organizations had been working in other countries. A list was circulated in which they could be entered. If you have not done this yet, you can still do so over the Internet. The annual goals were determined (Information about near accidents or peculiar accidents, innovative training systems, applied quality management in mountain rescue). Bruno Jelk thanks the demonstrators, speakers, Mountain Rescue Slovakia, interpreter team, and all participants as well as the secretary.

File: 29-Bericht-Präsident-Bodenrettung.pdf

Heini Malue, Subcommission Dog Handler:

Talks about the meeting that was held. The interest was very high. The next meeting will be on Tuesday, October 18, 2011, in Are. Topic: Training of young dogs for terrain search. The determined main topic will be "Experience, insights, and lessons from rescue operations with search dogs in summer and winter".

Patrick Fauchère, Air Rescue:

Talks about the discussion regarding single and double engines. In ICAR different opinions have to be accepted. One organization did not participate in the meeting. Patrick Fauchère also talks about participating in different meetings and courses. It is important to react quickly to EASA.

File: 30-Bericht-Präsident-Flugrettung.pdf

Hans-Jürg Etter, Avalanche Commission:

Reviews the participation in different courses in Norway in spring 2010 and in Canada. Hans-Jürg Etter thanks the Terrestrial Rescue Commission for the cooperation and for the possibility of participating in the practical meeting. Regarding the topics, it is important that each country reports accidents and near accidents. An accident statistic is shown. In regards to avalanche victims in Switzerland, the trend is rising. Last year 237 fatalities occurred in the countries ICAR covers. Main topic for the Avalanche Commission in 2011: Prevention and rescue organization for areas used intensively by the public (i.e. heavily populated areas, roads, and railroad stations). Hans-Jürg Etter thanks the participants and helpers, especially the Slovakian colleagues for the organization of this congress. Information is provided about the Avalanche Workshop in Revelstoke, Canada, from March 22-24, 2011, and Workshop Avalanche Rescue in Are in October 2011. Ideas for the practical meeting in Are can still be added.

File: 31-Bericht-Präsident-Lawinenrettung.pdf

End of Meeting: 1540 hours.

For the English Translation: Olivia A. Cashner