Internationale Kommission für Alpines
Rettungswesen IKAR
Kommission für Bodenrettung
Lawinenkommission

Presentations of the Terrestrial Rescue and Avalanche Rescue Commissions

Place:	Vysoké Tatry, Starý Smokovec, Hotel Bellevue
Date:	October 7 and 8, 2010
Time:	1640 hours and 0815 hours, respectively.
Present:	Members of the Terrestrial Rescue and Avalanche Rescue Commissions
Chairmen:	Bruno Jelk, Hans-Jürg Etter, Gebhard Barbisch
Minutes:	Fabienne Jelk

October 7, 2010

Ian Tomm, CAA: Review of the Winter 2009/2010

The winter in Canada is discussed, but not the guidelines. The last winter was very interesting. Most of the avalanches happen in one province, British Columbia. At the beginning of winter, on January 6, there was a big storm the sort of which only happens about every 30 years or so. They received more than 1.5 meters of snow in 18 hours. In January/February, there were clear periods with smaller storms. There was avalanche danger over a longer period of time. The public was warned through the media. There were 2-3 avalanches by a 20- to 25-degree slope inclination. Not many accidents were fatal. This is attributed to the warnings. There were several avalanche accidents involving skiers or snowmobilers. The snowmobiles are a problem. They are trying to collect information about the avalanches so that similar events can be avoided in the future. The media is important. They try to help the public in their decisions in avalanche regions. There are not as many fatalities as in other countries which is due to the prevention. The problem is, as mentioned before, the snowmobiles.

Questions: None.

File: 09-IAN-Tomm-CAA-Winterreport.PDF

Mike Wiegele, CSGA-ISGA: Adventure, Tourism, Hospitality, and Sports

He talks about a system consisting of 5 parts which was developed over several years in order to improve safety. He explains that we are carrying the responsibility for people in our regions. The 5 parts are: 1) Weather forecast. 2) Graphs. 3) Snow profile. 4) Field observation. 5) Stability rating and ski tests. Based on these 5 steps it will then be decided in which areas one can ride.

Questions:

You talked about 3 critical factors: Temperature, solar radiation, and load. What do you mean by "load"?

When new snowfall occurs, an additional load is put on the gliding layers. The load depends on wind and other factors. If it rains, there is a bigger load. The higher this number, the higher the risk of an avalanche. We want to know if there are unstable layers.

You talked about the shovel test. How do you use it?

There are many different tests, each with a different statement. There are no uniform statements. We need the shovel test. It states whether one can drive or not.

File: 10-Mike-Wiegele-Avalanche-and-tourism.PDF

End of Meeting: 1830 hours.

October 8, 2010

Klaus Opperer, Mountain Rescue Bavaria: Gondola Simulation Area Bad Tölz

The technical norm (EN 1909) regarding training states that training is needed for the system, precise instruction and regular practice. Klaus Opperer introduces a system wherein this training can be executed. The mounting of the system takes 5 days. It is in a warehouse-type building. It is available 365 days a year. It is important that it is an original system with original parts. The essential components of the gondola have to be available. Each vehicle can be equipped individually. The height is up to 12 meters. The instructor is very close to the trainees. Currently, the system is in the final inspection/approval phase. Training will begin in November. It is possible to train with a helicopter.

Questions: None.

File: 11-Bergwacht Bayern_Seilbahnsimulation.PDF

Stefan Schaake, Mountain Rescue Black Forest: Training, Equipment, and Strategy in Avalanche Operations in Low Mountain Range – Mountain Rescue Black Forest as Example

He explains the problem of avalanches in low mountain ranges where they do not have the alpine background and are lacking the routine. He is talking about an area in southern Germany. Avalanches occur in the Black Forest because the summits are flat with steep slopes. All the snow develops in these lee sides. In addition, there are high winds. The snow depth is between 1 and 2.5 meters. The terrain is not attractive for snow sportsmen. In general, the risk of an avalanche is completely underestimated. Almost never do they carry an avalanche beacon, a probe or shovel. There is spotty cell phone coverage in that area. There are between 5 and 7 avalanche accidents a year. There is no avalanche bulletin for the region. If an avalanche accident happens, the media is very much interested as it is an unexpected occurrence. Mountain Rescue Black Forest has 1200 voluntary members and participates in about 1000 operations a year. There are very few avalanche operations. However, if they do happen, more often than not they do have to probe because avalanche

beacons are rarely carried. The training, equipment of the rescuers, and the operating procedures are explained.

Questions: None.

Gebhard Barbisch comments that also in the Alps, on ski tours close to home, the people do not carry avalanche beacons. The problem is also recognized there.

File: 12-Schwarzwald-Lawineneinsatz.PDF

Walter Wuertl, ÖAV: ÖAV-Guidelines for Training and Guiding in Winter and their Efficiency

He explains how the Austrian Alpine Association handles training. Guidelines were established (small folding brochure). It is a recommendation. Content: Standard measures planning, standard measures terrain, strategy "stop or go", rescue. With regards to rescue, the ICAR guidelines were implemented.
Walter Wuertl presents 3 accidents. *Kartell-Fatlarspitze*: During the ascent, an avalanche was triggered. Three people partially and 2 people completely buried. One person deceased. The rescue was efficient. Conclusion: Fatal avalanche accidents cannot be avoided 100%. *Franz-Sennhuette:* While entering the slope, an avalanche is triggered. Two mountain guides, 11 people. The behavior (single entering) was good. The group was well equipped. One person completely buried, rescued uninjured after 3 minutes. *Puerglers Gungge:* 22 participants, 3 guides. The avalanche was triggered during the ascent. Six people carried away by the avalanche, 1 person completely buried. Burial depth 2 meters. Person survived. Emergency call could not be sent immediately due to poor cellphone coverage. Conclusion: Members of the Alpine Association are better equipped, have better coordination, better organization, and a better emergency management.

Questions:

What was the danger level for the first two accidents?

Sennhuette, 3-4, fatal accident substantial. It was borderline to what strategy recommends.

Comment by Gebhard Barbisch: The strategy is also used in seminars for young people. Through good education/training, they can be taught to make better decisions.

File: 13-Wuertl-Ausbildung-Oeav.PDF

Ian Tomm: Avalanche Safety in Canada – A Review of the 2009/10 Winter - Government Regulations

He talks about new norms that Canada has adopted. Workers were killed in avalanches which prompted the development of new norms in order to avoid such incidents. The norms only apply to the western part of Canada, namely British Columbia, and targets people who work in avalanche terrain. Why do we need such norms? One to 2 workers die per year in avalanches. In 2006, they started with guidelines. The government referred this to engineers and geoscientists. With the regulation, communication with the government is made easier. There is cooperation between different people, with physicians and policemen as well. Topics

are equipment of workers, etc. Currently, they are talking about equipping them with airbags.

Questions: None.

File: 14-Avalanche Regulation in Canada.PDF

Per-Olov Wikbert/Kent Herrström: How to Achieve Success in Accident Prevention – the Swedish Way

Several members of the National Mountain Safety Council of Sweden are introduced. There are many glaciers in Sweden. The Swedish mountains are longer and bigger than the Alps; 1000 km from north to south. There are few roads, long distances, arctic weather, strong winds and cold temperatures, many reindeer and bears. The activities in that area include cross-country skiing, snowmobiling, and free riding. The National Mountain Safety Council of Sweden was established 30 years ago. The idea of establishing such a council started with 3 accidents that involved 14 fatalities. Back then, no one had the task of avoiding such accidents. The council consists of several organizations and is explained along with how the council works. A film regarding avalanches and snowmobile tours is shown. One example of how accidents can be avoided is to educate certain target groups, showing them how to conduct themselves in the mountains. There are also several projects for the avoidance of accidents, for example drafting new standards for snowmobile rental companies.

Questions: None.

File: 15-Safety-Council-Sweden.PDF

Christian Mauther, DRK Mountain Rescue: Rescue with Snowmobile and Fjellpulken in Difficult Terrain

Christian Mauther is from Saxon Switzerland. The most difficult terrain there is often the forest. The area is used for skiing, cross-country skiing, and toboggan. Accidents outside of maintained slopes and trails are rare. Special procedures are in place for those operations, which are explained. The problem with snowmobiles is that one cannot drive slowly. Measurements were taken to establish the run-through of the driving chain. The break point was calculated. Afterwards the system for the rescue with Fjellpulken and snowmobile was developed.

Questions:

According to the presentation, the break point is 400 kg. Are 400 kg enough in road-less terrain when there is also a rescuer on it? Doesn't that break earlier?

We went through trials; 300 kg are not enough, 400 kg are sufficient.

With cables it used to be 600 kg. So could 400 kg be the lower limit?

We will observe that. If it is not enough, it is quickly changed.

File: 16-DRK-Sachsen-Schidoo-pulka.PDF

Theo Maurer, ARS: Alpine Rescue Switzerland in Large-Scale Avalanche Operation

In a first part, the organization of Alpine Rescue Switzerland is presented and in the second half the avalanche accident from Diemtigtal in January 2010. Alpine Rescue Switzerland is a foundation of the two rescue partners REGA and Swiss Alpine Club. The accident notification goes to the REGA dispatch which then musters the individual rescue stations.

Regarding the accident in Diemtigtal: There were a lot of people out and about on that day. An avalanche descended, 1 person got completely buried, 6-7 people were not buried. According to standard operating procedures, 2 helicopters were mustered; first the helicopter with the physician and then a helicopter with the rescuers. Shortly afterwards the physician was on scene. The buried person had already been freed. The physician went to see the victim. The physician and the other ski tour participants were standing next to the victim when another avalanche descended and buried the physician and the ski touring participants. At the same time as the second avalanche, a third avalanche also descended; the latter being triggered by 2 ski touring people on their ascent. These 2 were not buried. The rescuers who were already on scene started with the search; however, not knowing the number of victims made it difficult. The people in the area were traveling independently. The friends of the first victim did not have their avalanche beacons on "send" anymore. Not all of the injured were able to be transported to the same hospital (capacity/emergency admission). Difficult decisions had to be made. By Sunday evening, January 3, 9 people had been rescued, 4 were deceased. At that point it was still unclear whether additional persons were missing and if so, how many. The decision had to be made whether or not to keep looking or to suspend the search. The safety of the rescuers was priority. The media response was enormous. The police interviewed people all night long. These interviews revealed that there were still 3 people missing. The weather got worse over night and stayed that way through Monday, so that on Monday searching was impossible. Rescue organizations also have to be prepared for the media rush. PR people were appointed who took over the media work and so effectively isolated the rescuers from the media. On Tuesday the weather got better. For the media only a photo flight was done. They were not allowed on the avalanche field. After only a short period of time, the missing 3 people were found. Seven people died in this incident. Conclusion: One has to be prepared for the media.

Questions: None.

File: 17-ARS-Lawine-Diemtigtal_d.PDF

Manuel Genswein: Avalanche Beacon – part-time, occasionally turning off the avalanche beacon while on scene, other possibilities, in the future?

Situation today: During a search, avalanche beacons which are not used for the search are turned off. The disadvantage is that in case of an after-avalanche, there is no protection. Training Measures: Communicate more clearly that the avalanche beacon is changed back to "send" as soon as the search is completed. Technical possibilities are explained. One possibility is a special "stand-by send mode" which could easily be integrated in all avalanche beacons with a motion activator. In friend-to-friend rescue, the searcher switches to "search" and can profit from the motion-activated automatic switch in case of a secondary avalanche. The others carry the avalanche beacon in "stand-by send mode". In organized rescue the personal avalanche beacon is in "stand-by send mode" at all times. In case of an after-

avalanche, the device automatically switches to send. Avalanche beacons for searching are basic rescue material and should be used with the automatic switching turned off.

Question:

Are the devices equipped this way?

It is my proposition to the manufacturers that can easily be implemented. It is only a software problem which would have to be installed in the current devices. It is not necessary to buy a new device.

But currently this is not installed?

Correct.

There are trials to equip rescuers with Lambda4? What are your thoughts?

Functional, it is the same. You have a beacon that is only activated when it is necessary and when searching it does not affect the beacons from the actual buried persons.

Hans-Jürg Etter adds that he will ask the manufacturers this summer what they will do about it. They will push for an implementation as soon as possible.

File: 18-Stand-by-send-Genswein.PDF

Karl Sulser, BAS: Possibilities of Securing in Snow and Firn

To date there have been only few investigations. The snow never shows the same characteristics. Means of securing are explained. When securing from site to site, fix points are needed. Problem: The retaining strengths depend on the snow and are generally not known. Different trials were done regarding the possibilities of securing in snow and firn: Pull-out trials and fall trials, of which the results and conclusions were presented as well as the weaknesses of the trials.

Questions: None.

File: 19-AVS-Sichern-in-Schnee-und-Firn.ppsx

Main Topics 2011 (Goals)

Terrestrial Rescue Commission, Bruno Jelk:

The Mountain Rescue Bavaria suggests innovative training systems and applied quality management in mountain rescue.

Bruno Jelk would like to add presentations of near accidents or accidents that ended badly.

The proposals are approved.

Avalanche Rescue Commission, Hans-Jürg Etter:

Based on the recommendation REC L 0008, prevention and rescue for areas used intensively by the public is proposed as a main topic.

The proposal is approved.

Meeting Break: 1230 hours until 1400 hours.

Minutes: Robert Bissig

Andres Bardill, ARS: Certifications, Licenses, and Accreditations versus Operational Capabilities

The development in this area is problematic for the layman rescue organizations. There are two questions: When can rescuers not be deployed anymore if accreditations are missing, and how much do avalanche rescue organizations have to be professionalized? Out of 579 ARS operations, 38 were avalanche accidents. The classic rescue starts with friend-to-friend rescue and then the professional rescue commences. The operation becomes problematic if decisions are made based on training and certifications. Within ARS, there is a classification table from Rescuer I to Instructor. The operational concept, however, is flexible. Currently, there are still unanswered questions such as who should be certified and what needs to be the content of such a certification. Conclusion: On an international basis they have to make sure that in the future layman rescuers can still perform mountain rescue. ICAR might need to use its influence in this case. In addition, we have to avoid impeding rescue operations by excessive certification.

Questions: None.

File: 19-ARS-Zertifizierungen-versus-einsatzfaehigkeit.PDF

Andreas Ekengren, ResQU AB: How Can We Make 95% of the People Wear a Rescue Beacon?

Initially the speaker asks if it is possible to find 95% of missing people. He affirms this with his presentation of a newly developed search device with which cellphones can be located. Base and brain of the device is a receiver in the form of an easily transported box. This device can pick up cellphone signals, is always in receiving mode, is not dependent on specific providers, does not need any special software, and has a range of up to 30 kilometers. It is imperative, however, that the cellphone is on. The box can be used simultaneously by 3 people. The system corresponds to European standards.

Questions:

Is the device subject to data protection?

That depends on the country.

Is it possible to pick up two cellphones next to each other?

Both but also several can be located simultaneously.

Hans-Jürg Etter, SLF: Rescue Compass - Status Quo and How to Proceed

At the congress in Zermatt the project had initially been introduced. Meanwhile, the rescue compass for avalanche operations has been tightened in its content and filled in with additional information such as checklists, markings, protocol guidelines, as well as operational personnel roster. It consists of a risk assessment disc and an expansion booklet. The new version consists of three parts with regards to risk assessment. These are divided into person, conditions, and terrain. The rotating disc is divided into colors. Concrete

questions are posed and the leader then decides personally with help of references in which area (dangerous or less critical) he is currently with his team. The rescue compass is solely a decision-making help. It does not primarily target professional rescuers but for people responsible who do not very often have to make these decisions. The rescue compass can, however, be useful in training of future rescue team leaders. Country-specific differences can also be taken into consideration as an option. There is also talk about an App for the iPhone with the above-mentioned content. The reviewing phase for the members of the Avalanche and Terrestrial Rescue Commissions will be from December 2010 until April 2011. H.-J. Etter is looking forward to comments (etter@slf.ch).

Questions: None.

File: 20-Rettungskompass-SLF_IKAR.PDF

Marek Biskupič, MRS: Avalanche Run-Out Modelling and its Future Perspectives for Mountain Rescue in Slovakia

An avalanche simulation system was developed in cooperation with several universities and their scientific departments. It is used for especially dangerous areas and serves as risk reduction means for mountain rescuers, residents, and tourists. The compiled data for a region is put into parameters and are the basis for simulations of avalanches. The digitalized data which is divided into colored danger zones for these regions where avalanches can happen are summarized in a documentation and are also distributed to private users. The most dangerous areas in the Carpathian Mountains can so be visualized. The data is continually updated and it is also possible to download the data to a GPS.

Questions: None.

File: 21-HZS-Avalanche-Run-Out-Modeling.PDF

Rocky Henderson: Hogsback Kit (not on the agenda)

Rocky from Oregon presents an especially light equipment set which is used for terrestrial rescue, in which the weight for the rescuer can be reduced. A unique component is a rope they use that has its origin in sailing which is significantly lighter compared to the usual ropes.

Questions: None.

File: 22-MRA-The-Hogsback-Kit.PDF

For the English Translation: Olivia A. Cashner