



International Commission for Alpine Rescue
ICAR
Terrestrial Rescue Commission
Avalanche Rescue Commission



**Minutes of the Terrestrial and Avalanche Rescue Commissions
of October 21, 2011, 2 p.m. to 3:30 p.m.**

ICAR - Congress Are, Sweden

1. Auto Switch Function from Search to Send Mode Avalanche Rescue Beacon

Michael Rust, PIEPS

In case of a burial in a secondary avalanche, the device automatically switches from search to send. The problem with the avalanche rescue beacon is that the send tone can easily be confusing and distracting, by other non-buried devices. As well, the tone can easily be misinterpreted. An early automatic switch must be actively prevented, and with it extensive training is necessary. Stress and noise also hinder detection of the send tone from a buried device, or it can be easily misleading. Therefore, all avalanche rescue beacons that are not directly participating in the search need to be turned off. The existing sources of errors in the search-to-send resolution can prolong the search for the victims.

Pieps Backup offers a new solution. The transmitter is being used in combination with the standard avalanche beacon. Pieps Backup does not send as long as the rescuer is moving. As soon as there is no more movement for 25 seconds, the device recognizes the emergency and starts transmitting. With it, the active search operation stays free from external influence. The search-to-send mode must be deactivated when using Pieps Backup.

2. Switch - over (Reversible) Antenna Technology, Consequences on Search Strip Width

Fighting the Worst Case

Franz Kroell, ORTOVOX

Despite several improvements in the avalanche rescue beacon during the last several years, the biggest problem is still the receiving reception range and the quality when the send signal stands in a 90 degree blind spot.

The avalanche rescue beacon 3+ with the smart antenna technology, which offers an intelligent situation identification, automatically switches to the best of the three transmitting antennae. This means consistency in directional indicators when the distance indicator stays the same. The range is approximately 40 meters. The display shows the number of buried persons and as soon as one has found one person, that specific person can be marked and faded out, which facilitates the search for the other victims.

3. Avalanche Transceivers Test 2011

Marek Biskupic, HZS

In Slovakia, 150 avalanche beacons were tested for range and functionality in temperatures from 0-10 degrees Celsius, humidity of 40-50%, and with little wind. Five devices per type were utilized in order to minimize possible sources for errors. Influences due to interference problems (smart phones, 2-way radios) as well as ranges of the X, Y, and Z axes were measured and analyzed.

Multiple burials were equally problematic for all devices. It was identified that each device has advantages and disadvantages and that a lot of training is necessary in order to correctly operate the device. No one device was especially better than the others.

4. The ABC's (and D) of Digging: Avalanche Shoveling Distilled to the Basics

Bruce Edgerly, BCA

The strategic approach of shoveling in avalanche rescue was examined since shoveling most often requires a lot of time. The most important thing is that one always shovels downhill, not too deep, using the whole upper body and not only the arms. In addition, one should not shovel above hip height. The shovel should be used like a paddle in a boat.

The A, B, C, D of shoveling:

A – Airway: Do not shovel over the victim so as not to compact the snow

B – Burial depth: if less than 1 meter, one should only have to dig once

C – Clear snow to the sides: shovel to the side, not over the shoulder

D – Dig only once: only dig once in order to preserve strength

5. Snowmobiles: Introduction of a national standard in Sweden

There are over 300,000 snowmobiles in Sweden. There are over 8,000 kilometers of marked trails. In order to ride a snowmobile one needs a driver's license. The snowmobiles are very fast (160 PS) and one can ride long distances in rough terrain in a short time. Therefore, standards had to be introduced for the 144 companies

that offer snowmobiles for rent or sale. The buyers now have to participate in a 2-day class in order to get a certificate. Alcohol tests are also done since alcohol consumption does not keep most people from riding a snowmobile.

These measures are expected to have a positive effect on mountain rescue. It is the hope that if riders are properly informed and equipped that they will have a better chance of survival in snowstorms and icy temperatures of down to -40 degrees Celsius. Brochures addressing this problem are handed out to tourists without mountain experience so that they have something like a checklist available. A 15-minute short film produced regarding this can be downloaded for free from the internet.

Bruno Jelk thanks the interpreters, technicians, and especially the organizers for the big, well-equipped meeting room and their contributions.

Are, Sweden, October 21, 2011

For the minutes: Caroline E. Irniger

Approved: H.-J. Etter and B. Jelk

For the English translation: Olivia A. Cashner