

Presentations Commission for Terrestrial Rescue

Place: Thessaloniki, Griechenland
Date: 17. Oktober 2024
Time: 09.30 Uhr
Present: Delegates of the Commission for Terrestrial Rescue
Delegates of the Commission for Avalanche Rescue (from 09:30 to 10:00)
Members from the Air Rescue Commission (from 16:30 to 17:00)
Chair: Gebhard Barbisch
Minutes: Fabienne Jelk

AVACOM: Updated Recommendations Review and Feedback Discussion with AVACOM

The Avalanche Rescue Commission is working on the following two recommendations, which need to be updated or replaced:

1. Recommendation REC L 002 of 3. Oktober 1998 on Avalanche Beacons.
These recommendation needs an update
2. Recommendation 20151017-AVA-REC011 - Probing Strategies.
This recommendation must be replaced. The 2024 draft is shown.

Delegates will be given the opportunity to discuss the proposed changes for 15 minutes.

Workgroups

- **Wildfire**
- **Bolts, Pitons and Anchor Systems**
- **Light Weight Rope Rescue Systems and Winches**
- **PLB's and App's - the last step**

The delegates work in four groups and discuss these topics.

Workgroup "Bolts, Pitons and Anchor Systems" Report and Discussion, Stefan Blochum

This topic was already discussed on the practical day. Stefan Blochum and Bernd Adler organized a working place on this topic.

The discussion focuses on setting up an anchor system for rescue operations.

The following questions arise:

Where are the bolts set?

How many bolts are set?

Is a self-equalizing anchor system or a tied-off force triangle set up?

Both anchors have advantages and disadvantages.

Self-equalizing-system:

Advantage: The master point of this anchor systems moves when the direction of all persons hanging on the anchor system changes.

Disadvantage: If one anchor point fails, all persons hanging off the anchor fall a relatively long way and the entire load falls on the remaining anchor points.

Solution: Reduce the fall distance by using a shorter sling (no more than 60 cm).

Tied force triangle system:

Advantage: If one anchor or bolt fails, the people hanging off the anchor do not create additional impact. The load on the remaining securing points is less.

Disadvantage: When the anchor does not move, there can be a lot of pressure on one bolt/anchor point if the people hanging from the anchor system, move.

A tied-off force triangle system or a compensating anchor system with a short loop is recommended.

Presentation of the results in the plenary session by Stefan Blochum:

Rescuers work with two different systems: Self-equalizing system and fixed anchor system

Requirements for both systems:

- Breaking strength 22 kN
- Clear master point
- Redundancy
- Load sharing
- Minimum possible shock load
- Recognizable / replicable

Criteria that must apply to all anchor points

- Bolts, impact bolts, chocks, friends, cams, ice screws, pitons, natural and self-made securing points, vehicles, etc.:
 - They must be compatible with the terrain
 - Minimum load capacity? That is an uncertain factor and still discussed.

Questions / Inputs:

Kik Mauthner: If the system does not compensate, are there other options for better load distribution in the event of a lateral load? If you have a small angle, there is no need for compensation. You never know the load that the anchor point can bear. You only know the load that the material can bear.

Why was the limit of 22 kN set? That will not help. The uncertain factor is the anchor. You will never know what load an anchor can hold.

Gebhard Barbisch: It also has an impact what the circumstances are, how many people are loaded on the anchor system. The decisive factor is the load that is hanging from the anchor system and the options that you have for setting up the anchor system. The rescuer must be made aware of these relationships.

Kirk Mauthner: The load must be kept in mind. If numbers are set, it does not help. There are too many factors that are unknown and that cannot be measured, for example the load that an anchor point can bear. The load must be kept in mind.

These points need to be discussed further.

The Galileo system, future and challenges in Personal Locator, Humberto Hinestrosa (Rescue International)

How can people be located?

Localization can be carried out via SARSAT-COSPAS (international, satellite-based search and rescue system for detecting and locating emergency radio beacons).

Galileo is a navigation satellite and timing system (GNSS) that can be used worldwide. Galileo has existed since 2016 and is integrated into SARSAT-COSPAS. It runs under civil control and has 24 active and 6 reserve satellites at an altitude of 23,000 km (MEO), in three orbits.

PLBs (Personal Location Beacons) are small, portable transmitters that can be activated in an emergency situation and send out alarm signals. Personal location devices (PLBs) must not be confused with satellite-based tracking and transmission systems such as iPhones and Inreach.

In some countries there are legal requirements for the use of PLBs. These must be observed. In some countries licenses are required. PLBs must be registered in some countries.

The number of PLBs and the number of rescue operations that followed as a result of PLB alarms has increased significantly in recent years. In the last 6 years (excluding 2019 and 2021), a SAR was carried out on 2,479 beacons (on land).

Galileo now enables the detection and localization of emergency signals from PLBs in almost real time. It is very fast and accurate, which means a shorter alarm time and smaller search zones, and offers the return link service.

When an alarm is triggered by a PLB, not only the location is transmitted. If the PLB is registered, additional information about the person and the event is sent to the rescue teams.

Compared with the other 406MHz emergency beacons such as EPIRB (water use), ELTS (aviation use), PLBs are likely to play the leading role in emergency alerting in the near future and will be the most widely used of the 406MHz emergency beacons.

If you have questions: Humberto Hinestroza,
hinestroza@rescue-international.com

Presentation:: 20241017-03-Humberto-Hinestroza.mp4
20241017-03-Humberto-Hinestroza.pdf

Workgroup PLB's and Apps - the Last Step - Report and Discussion

The topic of the workgroup is PLBs (Personal Locator Beacons) and Emergency Call Apps. Participants in the workgroup are Gebhard Barbisch (ÖBRD), Julian Tovey (LandSAR NZ) and Alexis Mallon (ENSA).

A distinction must be made between PLBs (Personal Location Beacons), Apps on the mobile phone that can trigger an alarm, and Inreach from Garmin or SPOT. PLBs are based on experience in aviation and shipping. After the alarm is raised, the procedure is identical in each case. This procedure can hardly be changed. Garmin Inreach and SPOT are different systems.

After the alarm is raised by a PLB, the alarm is sent to a central office. The person who triggered the alarm is then located and the alarm is transmitted to a local POC (Point of Contact). The problem is the transmission of the alarm.

Recommendation: The Point of Contact (POC) needs an algorithm to determine the procedure after an alarm is raised so that the alarm is sent to the right places and all information is passed on. The procedure must be developed together with the national responsible SAR organizations.

Those who receive the alarms must be trained to read the transmitted data correctly. It must be ensured that the alarms are transmitted to the right places in a timely manner and that no information is lost.

Alarm apps: There are many apps on the market. The processing of the transmitted coordinates and information is not uniform. The emergency call centers are flooded with alarms and receive too little or incorrect information.

The future is AML (Advanced Mobile Location, determining the position of the person who dial an emergency number with their mobile phone.

Android automatically activates GPS and transmits the coordinates to a server when an emergency number is dialed with the mobile phone. Apple will follow this solution. Work is underway to ensure that the data is transmitted directly to the responsible emergency call centers.

Conclusion:

In the future, Emergency Call Apps should no longer be supported. The way forward is via AML.

Kirk Mauthner: What about the localization of iPhones?

That was not discussed. It was only discussed about Apps. With the iPhone, you can communicate directly with the rescue team. There is no need to localize the iPhone.

Presentation: *20241017-04-PLB-APPS-Workgroup-Results.pdf*

Workgroup Wildfire Report and Discussion, Dan Rogers und Tobias Vogl

Members of the working group are:

Bastian Altkofer (Police Helicopter Bavaria), Dan Rogers (Teton County SAR, Wyoming), Ada Sarbu (Salvamont Sinaia, Romania), Jakub Wlachovski (Horska Sluzba Slovakia), Tobias Vogl (Bavarian Mountain Resce).

The aim is to collect information on the different approaches in order to issue a recommendation.

It is important that this recommendation is suitable for all countries and organizations and focuses on the most important points.

What you have to be prepared for during a fire operation:

- Evacuations, e.g. of firefighters, forest workers
- Rescues, e.g. of firefighters
- Support (with vehicles, from the air, with ropes, etc.)

What is not the aim: To become a firefighter yourself.

What equipment is needed:

- PPE (personal protective equipment)
- Special equipment (ropes, slings)
- Additional material for transport with a helicopter.

The use of the special equipment must be learned. In addition, rescuers need to be trained in self-protection, use of "new" rescue equipment, use of the usual SOPS (Standard Operating Procedure) in different situations (e.g. rescue equipment, air support strategy, helicopters as backup for rapid evacuations).

Cooperation and collaboration are essential. People need to talk to each other and they need a plan. Common SOPs need to be developed (for fire and rescue services). Competencies and responsibilities need to be regulated.

National and local rules need to be taken into account, joint field exercises need to be planned and carried out, and integration into the higher-level ICS (Incident Command System) needs to take place.

The aim is to issue a recommendation on this topic. A draft will be issued first and feedback on this draft will be requested as soon as it is online.

Presentation: 20241017-05-Wildfire ICAR 2024.pdf

Workgroup Redundancy for Lowering or Raising people with Fiber Ropes (Kirk Mauthner)

It is about recommendation TER-REC0005. This needs to be revised.

Shared Tension Rope System:

Advantages:

- Reduces the risk of accidents due to sharp edges.
- Reduces the forces acting on the system.
- Reduces the fall height due to the pre-tension.

The critical points, the weak points, must be subjected to a risk assessment.

The force limitation must be included.

Anyone who wants to help develop the recommendation can get in touch with Gebhard Barbisch.

Questions:

What will happen to the light weight systems working group: It was decided to change the name of the working group. All systems are about shared tension rope systems.

Presentation: *20241017-06-SharedTensionRopeSystems.pdf*

SAGF - Training of alpine rescue technicians (T.S.A.) and air rescue technicians (T.E.) in the alpine rescue of Guardia di Finanza, Riccardo Manfredi, Nicolo Boffelli (SAGF)

In the Soccorso Alpina Guardia di Finanza (S.A.G.F.) you can qualify in four different areas:

- Tecnico di Soccorso Alpino (T.S.A.)
- Tecnico di Elisoccorso (T.E.)
- Tecnico della Ricerca (T.E.R.)
- Istruttore Soccorso Alpino

There are two ways to obtain this qualification, as a member of the Guardia di Finanza or as a civilian.

In the T.S.A. training various modules must be completed:

- Winter Mountaineering Module (winter mountaineering, duration 4 weeks)
- Alpine Skiing Module (alpine skiing, duration 4 weeks)
- Ski Mountaineering and Avalanche Rescue Module (ski touring and avalanche rescue, duration 5 weeks)
- Basic Rock Mountaineering Module (mountaineering on rock, duration 4 weeks)
- Advanced Mountaineering Module (mountaineering on rock for advanced learners, duration 6 weeks)
- Basic Helicopter Rescue and Organized Rescue Module (basic course in

helicopter rescue and organized rescue, duration 5 weeks)

In the Tecnico della Ricerca (T.E.R.) training, the rescuers are trained in two weeks to carry out search operations.

The EMS Technician Helicopter (T.E.) training can be completed if the rescuer has been in the S.A.G.F. for at least two years the EMS T.E. training is divided into two parts. One part contains training in terrestrial rescue (e.g. use of the IMSI catcher). The second part contains training in helicopter rescue (e.g. use of the rescue winch).

There is a training manual: Manuale operativo di Elisoccorso in ambiente impervio.

The highest qualification is that of "Alpine Rescue Instructor". This can only be obtained by those who have completed training as an EMS Technician Helicopter and have worked for at least 6 years in an S.A.G.F. base.

Presentation: 20241017-07-SAGF-Training-and-Education.pdf

End of our meeting: 16:20