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Germany

Mine Rescue in Non-Coal Mines in Germany

Before we start with our paper, I would like to thank all those who organised this conference. Our main task is, as you will soon see, the collection, evaluation and transfer of information and experience. With this in mind, we welcome the fact that this first international conference is taking place and are glad to be able to participate.

1. Overview of Mining in the Federal Republic of Germany

In Germany about 90,000 people are currently employed in a wide range of different mining sectors and in companies of varying sizes.

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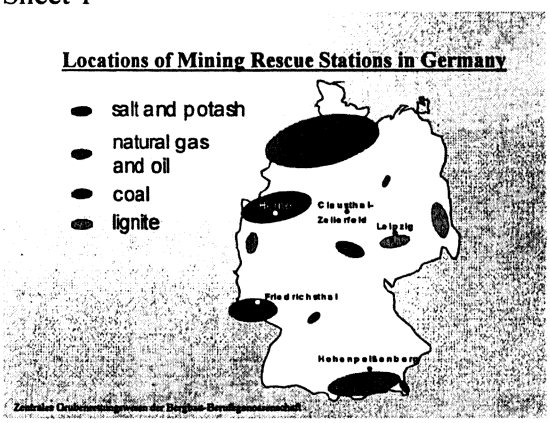

For economic reasons, coal mining in Germany has declined considerably in the last 5 years. Nevertheless, there are still approximately 35,000 people employed in 10 mines in this mining sector constituting 40% of the total number employed in mining as a whole in Germany today. The coal mines in Germany are to be found in the Ruhr and Saar areas and are run by Deutsche Steinkohle AG.

Lignite surface mining is the next most important mining sector in Germany with approx. 17,500 employees and is to be found in 4 main areas: in Niederrhein, in central Germany, in Lausitz near the Polish border and near Braunschweig in Niedersachsen. The last underground lignite mine is in the process of closing down on economic grounds.

Another important sector is salt mining for potash and rock salt, which is both technically and economically interesting. Roughly 12,000 people are employed at these mines which are spread across the entire country in the states of Niedersachsen, Hessen, Thüringen, Sachsen-Anhalt, Nordrhein-Westfalen, Baden-Württemberg and Bayern.

In Niedersachsen there are 3 underground locations which are currently being investigated for the permanent disposal of radio-active waste, respectively are in the process of being officially approved.

Other different types of mineral mining, both surface and underground, are mostly carried out by small companies.

Companies producing oil and natural gas are not included here although they are supervised by the mining authorities and supported by the main mines rescue stations.

2. Legal background

Mining laws in the Federal Republic of Germany require mining companies and their boards of directors and those reporting to them to ensure safety and appropriate organisation and also to take all necessary measures to prevent endangering their employees and to rescue the injured. If there is an emergency at a neighbouring mine, they are also required to provide professional help in the form of staff and equipment.

In the same way the mining laws stipulate that every mine is connected to a main mines rescue station. Every underground mine and production facility with fire or explosion hazards has to be a member of a main mines rescue station or maintain such an organisation of its own. The aim of this co-operation, as laid down by law, is to address common tasks in the field of mine rescue and gas rescue. In concrete terms this means a commitment to mutual help in case of an emergency, prior co-ordination of rescue service strategies and equipment as well as agreement on standards for training brigadesmen (rescue service members).

Every individual underground mine is required to set up and execute fast and efficient rescue operations and to have the necessary prerequisites as regards organisation and staff.

3. Main mines rescue stations

Mine rescue in the Federal Republic of Germany is co-ordinated and organised by 5 main mines rescue stations based in the main mining areas. The two main mines rescue stations of Deutsche Steinkohle AG located in Herne and Friedrichsthal not only support and supervise their own coal mines but also other, mostly smaller, neighbouring mines belonging to different mining sectors.

The 3 remaining main mines rescue stations located in Clausthal-Zellerfeld, Hohenpeißenberg and Leipzig are run by the BBG (Bergbau-Berufsgenossenschaft: a statutory accident insurance organisation for the mining industry) and each have their own special area of responsibility. Together they constitute the central organisation of mine rescue of the BBG and support and supervise all non-coal mines in Germany. In order to use the synergies, the engineers employed at these 3 main mines rescue stations of the BBG also work on tasks in the field of prevention which arise from the function of the BBG as a supervisory body, in accordance with the law, for the insured mining companies. In addition, all off- and onshore oil and natural gas production facilities are supported and supervised.

Furthermore, for a fee, the main mine rescue stations of the BBG offer their expertise in the form of training, technical assistance and consultancy on respiratory protective devices , respiratory protective devices for escape and rescue techniques for all industrial or commercial organisations, for example, chemical or tunnel construction companies. At the Hohenpeißenberg station the BBG also operates an accredited testing laboratory for respiratory protective devices and open-circuit self-contained compressed air diving apparatus and in Leipzig there is an ultra-modern laboratory for testing respiratory protective devices.

Additional tasks result from the participation in the development of standards and regulations for respiratory and rescue equipment, as well as safety concepts for tunnel building sites.

4. German Committee for Mines Rescue (DAGRW)

For many years an expert committee, the so-called German Committee for Mines Rescue (DAGRW) has been co-ordinating all activities in connection with rescue in surface and underground mining in Germany. The members of this committee include not only the 5 heads of the main mines rescue stations but also a representative from the mining authorities of the respective federal state, as well as representatives from the coal and salt mining associations, oil and gas companies, union representatives and the technical director of the BBG. On account of similar interests, a comparable committee of experts, that of the fire brigade, sends a representative to the DAGRW committee, who in turn supports the activities of experts from the fire fighting field. A central task of the DAGWR committee is to develop and update the rules for the use of respiratory protective devices and for conducting mine rescue operations.

4. Figures for mines rescue and gas rescue

In German mining there are about 2,100 brigadesmen available with 1,450 closed circuit breathing apparatus for sustaining breathing for 4 hours. For gas rescue there are 2,400 brigadesmen with 1,000 self-contained open circuit compressed air breathing apparatus and 80 closed circuit breathing apparatus.
For the companies associated with the central organisation of mine rescue of the BBG the situation is as follows:

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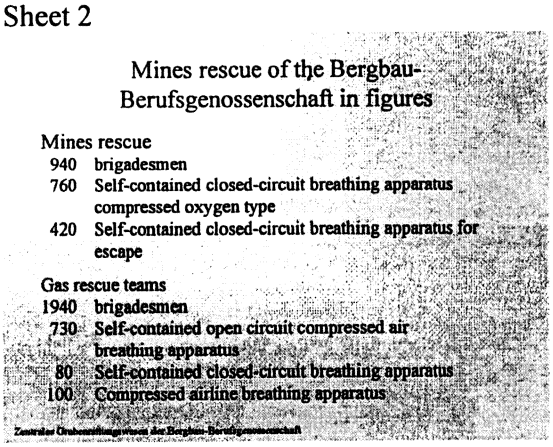


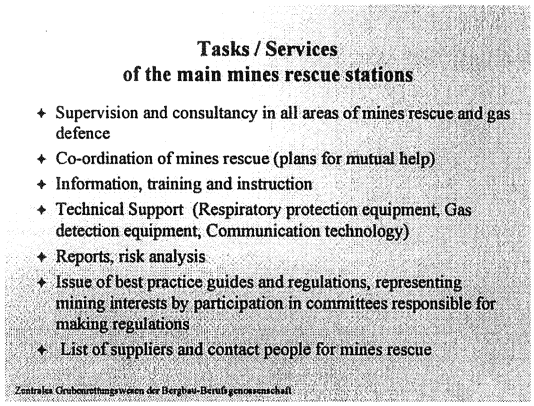
In the past, the main causes for the use of the mines rescue workers were:
Fires
Self-ignition of waste
and outbreaks of gas

The decline in mining in Germany in the past few years, in particular coal, and also the reduction in the number of people insured and changes in the types of risks have led to a constant reviewing of our structures and tasks and subsequent changes and adjustments within our organisation.

6. Tasks and services of the main mines rescue stations

In 2001 our board of directors asked us to carry out a needs and expectations survey with some of the members of our organisation. This systematic survey not only acknowledged certain well-known facts, which emphasised the importance of our work, but also led to new insights and topics, such as, "Safety in mines open to the public and events in underground mines for tourist or public relation purposes" and to a general expansion of our training courses and events.

Sheet 3



Supervision of mine rescue and gas rescue teams is carried out by our organisation on behalf of the mining authorities.
Consultancy includes risk analysis, rescue technology plus respiratory protection, rope access and abseiling techniques, respiratory protective devices for escape, fire protection, emergency management and planning.
In the main, the co-ordination of mines rescue services refers to the development of plans for the provision of help from other mines. The job of the main mines rescue station is to advise, liaise and support and, due to mutually agreed procedures, also bears a certain degree of responsibility.

Immediate or better fast information on claims for damages, conferences, inventory lists of mines rescue equipment.

Technical help: we have a limited supply of mine rescue equipment in store. Standard equipment is available at all locations, but special equipment only at specialised locations. We write reports and risk analyses in our fields of expertise for our members and also for tunnel construction companies and other underground facilities.

As we are members of committees responsible for making regulations, our expertise flows into the respective technical regulations. We are able to represent mining interests effectively and our information is always up to date.
Last year the standardisation for respiratory protective devices was started on ISO level.
I am currently working on this and looking for further members with similar interests among the other delegations. So far I have the impression that I am the only person representing the interests of mining and mines rescue workers.
At this point I would like to ask you for your support.

List of suppliers and contact people for mines rescue: In this list you will find information about suppliers and contacts for carrying out search or rescue drilling from the surface.

Mines do not usually have special drilling equipment but rely on contractors with deep well drilling technology. We are at an advantage here on account of the gas rescue work we do when supervising the drilling and production of oil and natural gas in North Germany.

7. Information, training and instruction

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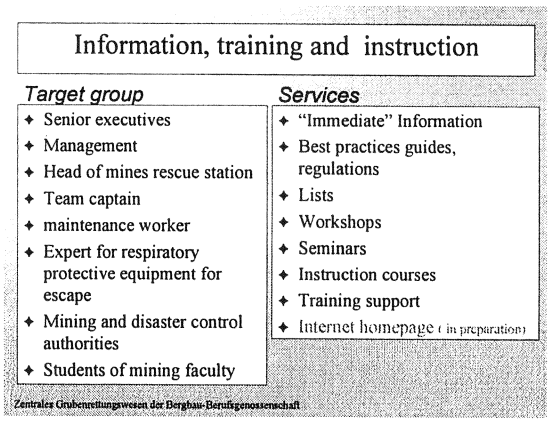

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A few years ago, as a main mines rescue station, we mainly had contact with the heads of the different divisions within the mines rescue forces. This situation also applied to our offers of training courses and information.
However, the success of a rescue operation depends basically on management and its senior executives. The heads of accident prevention and the mines rescue services are not in a position to make up for wrong decisions made at a higher level.
Our members have requested and attended the training courses and seminars which we have developed on this topic.
We offer training courses for the heads of the mines rescue and gas rescue services. These courses are repeated every four years and participation is compulsory. The members of the mines rescue force are trained on site by their supervisors. We offer assistance with this.
We work closely with the mining and disaster control authorities. Some of the civil servants are also trained brigadesmen. Students of the mining faculty can attend introductory seminars on mines rescue and familiarise themselves with the tasks of a brigadesman.
Internet homepage: a professional online presentation of our work is currently being prepared.

8. The central organisation of mines rescue of the Bergbau-Berufsgenossenschaft

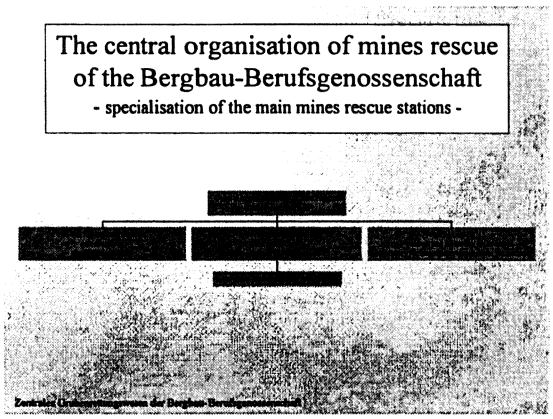
Every main mines rescue station of our central mine rescue organisation provides the standard services mentioned. In 1993 the 3 main mines rescue stations merged to become the central mine rescue organisation, which led to a further specialisation of the locations and made it possible to have the knowledge and expertise available in depth and up to date, and to store special technical equipment.

The main mines rescue station in Hohenpeißenberg specialises in fire protection and emergency management. Here they have an accredited testing laboratory for respiratory protective devices and open-circuit self-contained compressed air diving apparatus in accordance with EU directives.

The main mines rescue station in Leipzig specialises in rope access and abseiling techniques and in addition respiratory equipment for escape. They have also installed a laboratory for testing self-contained closed-circuit breathing apparatus for escape and filter self-rescuer.

The central mine rescue organisation is based in Clausthal-Zellerfeld and employs staff to deal with administrative tasks and specialises in gas measurement technology and protective clothing.

Sheet 5



There needs to be an adequate number of staff in order to guarantee availability of expert staff and equipment at any time and any location. This number cannot be reduced further, even if mining continues to decline.
The services mentioned are provided by a total of 30 employees distributed between 3 locations. As a rule, the engineers are also technical supervisors of the BBG and are therefore familiar with the special features of the individual mines.

Knowledge, expertise and technical equipment are available 24 hours a day and 365 days a year to all our members and those insured with us.
The merger has created synergy and has resulted in cost savings.
While expanding our range of services to our own members, we also sell our services to third parties.
All in all, we were able to increase our volume of services to third parties considerably and at the same time maintain the level of services to our members despite price increases and taking on new tasks.