

GRS - Conference: Improving Nuclear Safety through Operating Experience Feedback – Present Challenges and Future Solutions

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Ladies and gentlemen,

VGB PowerTech is a European professional association for electricity and thermal energy generation and is a voluntary alliance of companies for whom the operation of power plants and the associated technology is an essential element of their business activities.

The two fundamental objectives of the VGB, or all of its members, are to promote and improve plant safety and environmental sustainability as well as to promote and improve the availability and economic efficiency of existing electricity and thermal energy generation plants and of those to be built in the future.

VGB was founded in 1920 and includes members from operators, manufacturers and institutions associated with the electricity and thermal energy industry. Today there are 432 member companies from 32 countries with a total power output of more than 485,000 megawatts, of which nearly 400,000 megawatts are generated in Europe. Since the fall of the iron curtain, VGB has been developing increasingly intensive contacts in Central and Eastern European countries.

The tasks of VGB are performed by more than 1,000 international experts from the member companies in technical committees and working groups. At the centre of this work, alongside the exchange of operating experience, is expertise with a view to answering all questions regarding electricity and thermal energy generation and environmental questions relating to this. As a neutral forum VGB also acts as an interface between members' interests and manufacturers. That means, VGB

- drives the development of VGB directives and working instructions to promote safety, availability, environmental sustainability and economical efficiency as well as the further development of electricity and thermal energy power plants
- VGB promotes training activities with respect to power plant operators, knowledge management and the professional training of power plant staff and
- VGB is instrumental in initiating and managing research and development projects.

This all applies especially to nuclear energy. In Germany we have almost 30% of electricity that is provided by nuclear energy, making nuclear energy the most important source of electricity generation, next to coal. A good half of the base load originates from nuclear energy. It still continues to satisfy all the criteria in the so called "objective triangle" of energy supply: security of supply, environmental sustainability and economic efficiency.

The work in VGB's competence centre "Nuclear Power Plants" is based on the three pillars

- Plant technology
- Plant operation and
- Nuclear fuel cycle

The common goal of all committees and working groups is to exchange experiences in technical and operational aspects with a view to operating nuclear power plants safely and without disruptions in the long term. To demonstrate the fact that the objective of safe plant operation has been achieved for many years, we can take a look at the operating results in German nuclear power plants of recent years as an example:

At the beginning of 2005 there were 18 German nuclear power plants in operation. Six nuclear units achieved operating results of more than 11 billion kWh each. The safe and reliable operation is also reflected in the load factor of the reactors. On performance-weighted average German nuclear power plants achieved some 7,600 (7,583 to be exact) full-load hours, representing 86.6%.

Altogether nuclear energy in Germany spares the atmosphere from around 160 million tonnes of the greenhouse gas carbon dioxide every year. This can be compared with the total emissions given off by the German road traffic.

But I would like to come back to VGB and its history of nuclear activities:

Great importance was attributed to exchanging operating experiences back in the early years of nuclear energy in Germany. As early as 1965

the constituent meeting of the VGB - "Committee for Operating Experiences" took place, which regularly continues the experience exchange on an operational level today in the form of professional committee – so called – "Nuclear Power Plant Operation". Added to this in 1981 were the two working groups "Boiling Water Reactors" and "Pressurised Water Reactors", in which the experiences were exchanged on the specialist division manager level "Operation and Maintenance".

In 1984 the "Central Evaluation and Reporting Center" – so called ZMA – was set up at VGB.

Since then, the member companies report all incidents to the VGB-ZMA that are relevant for safety, significant in terms of availability or of public interest. These incident reports are stored in a ZMA database and made available to all member companies for the purpose of experience exchange.

All German nuclear power plant operators as well as the Dutch Borssele plant, the Swiss Gösgen plant, the Spanish Trillo plant and the Brazilian plant Angra all take part in the experience exchange on special incidents in nuclear power plants coordinated by the ZMA.

In 1989 the tasks of the ZMA were adapted in line with the widening requirements of the international experience exchange, which became necessary especially when WANO, the World Association of Nuclear Operators, was founded in May 1989.

In this regard VGB is the central link between all German nuclear power plant operators and WANO and thereby fulfils the function of WANO interface organisation and the task of network coordinator in the nuclear network of WANO. Activities carried out include implementing the WANO

Peer Reviews programme, technical support missions, expert meetings, workshops and so on.

Through many years of operating nuclear power plants and constantly striving towards the improvement and optimisation of plant technology and operations organisation, a high technical and organisational class has been achieved and staff being able to perform safe and reliable operations has been set up at a high level. Even under changing conditions in the competitive economical environment, safe and reliable plant operation is always the uppermost priority.

The exchange of operating experiences for improving the safety of nuclear power plants has been successfully practiced for many years, and since a few years ago this has been expanded upon to include the exchange of experiences with so-called soft facts. An essential element in this context is the experience exchange on the topic of “safety culture”.

Ladies and gentlemen, please allow me to say a few words on this topic:

Safety culture can be seen as a single entity made up of the safety management system and the actual behaviour of employees. As well as the technical conditions, administrative regulations and provision of resources, the safety culture must satisfy the requirements for shaping both the consciousness and the hands-on actions of management and all employees regarding safe and reliable plant operation.

The VGB “Safety Assessment System” (so-called SBS) has been developed by specialists from German nuclear power plants in conjunction with external experts. The concept serves to maintain and improve the safety culture and has been specially developed for

application in nuclear power plants. It can, however, also be applied in other sectors, taking into consideration the given conditions and interfaces. SBS is based on a continuous process of optimisation, including the recurrent assessment of the safety culture, following its trends and implementing any necessary measures for improvement.

The safety culture assessment deals with all fields of reference and topics arising from operational management tasks as well as the interplay between the respective organisational units. It is to be performed right up to the operational level. This means it is necessary for all employees to be involved in this optimisation process as participants and knowledge carriers. A prerequisite for this is an open working atmosphere without assignment of blame, which is only enabled by an internal assessment system on account of the sensitivity of the information. At the same time as this optimisation process, objectives and the status of the safety culture achieved need to be communicated to the workforce.

On the whole this VGB-SBS can be said to be an effective and positive tool. Nevertheless, experiences in dealing with the current version have also shown that a revision would be expedient, as handling and efficiency could be improved especially. It is clear that, not only in technical areas, but also here, in the area of safety culture, we are striving towards improving the safety of nuclear power plants even further.

Ladies and gentlemen,

The key requirement for the future of nuclear energy in Europe is surely still going to be the matter of having faith in this technology and with it, widespread acceptance amongst the population.

To raise the acceptance of nuclear energy amongst the population it is crucial that all participants are treated openly and trustingly – this goes for operators, the responsible authorities and assessors and, last but not least, political representatives and the public.

As you all know the former German government decided to abandon nuclear power in our country, whilst worldwide 29 other countries are continuing to operate nuclear power plants. 16 of these countries are also building more nuclear power plants at present and around half a dozen emerging nations are currently investigating the possibilities for introducing this technology. If you compare these facts with the decision to abandon nuclear energy in Germany it leads me to my personal conclusion: **There is something amiss in Germany .**

Therefore we as operators of NPP's are hoping that German nuclear energy policy will be revised very soon to take into account its excellent level of safety and the massive potential of the plants for the German national economy.

The energy summit led by Federal Chancellor Merkel has sent out the right signals on the topic of energy research. Government funds for energy research and innovation are set to be increased by more than 30% by 2009. This means that for the period 2006 to 2009 a total of EUR 2 billion are going to be invested in new energy technologies. The Federal Chancellor has demanded that the industry makes a significant contribution towards energy research. We are not expecting ideological guidelines to come from the fields of research. This also means however that the research ban on reactor development will have to be lifted.

Persistence would be evidence of incapacity for the technology – and for Germany as a business location.

Positive attitudes towards nuclear energy are growing year by year. According to nearly every survey, the majority of the population in Germany are in favour of reconsidering the decision to abandon nuclear energy. Therefore, it would be possible to start the necessary discussion regarding a reassessment of nuclear energy within a well-move energy mix. This should also finally put an end to those arguments playing renewable and nuclear energy off against one another. Both have their place in the energy mix of the future. In summarizing we as operators of NPP's in Germany believe in the future of this technology in an energy mix.

By saying that I wish good success for the conference.

Thank you very much