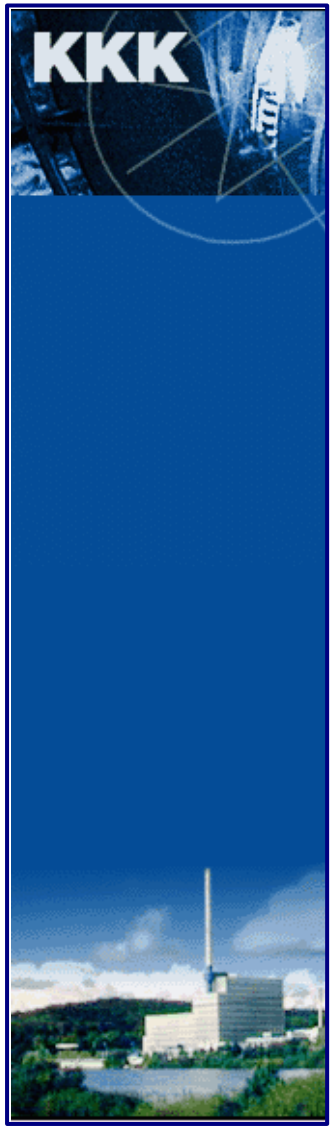
KKK views on the achievements of LearnSafe



Espoo, 29 April 2004

Overview

Phase I

Semi-structured interviews with the Utility Top Management

Metaplan technique with the Upper Management and Multifunctional Managers

Phase II

Metaplan technique

Small group discussions with Management

What are the perceived emerging challenges in the management of nuclear power plants?

The aim of the interviews was to collect top management views on challenges facing the senior management in nuclear power plants.

The main results presented in the following contain three focal points:

- The development in the nuclear field
- Technology
- Future

Utility Top Management interview

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The development in the nuclear field

- The challenges for the safety management of nuclear power plants has remained quite similar. But the environment has changed, e.g. by
  - changed political goals,
  - changed public acceptance of nuclear energy production and
  - changing regulatory practices.
- The nuclear industry in Germany is faced with the opting out policies and its consequences on human, technology and organizations.
- The public holds a critical view of the nuclear industry in raising the question: Can nuclear energy be defended after Chernobyl? But the nuclear industry also made mistakes, e. g. by lack of proper communication with the public.
- More emphasis has to be placed on the need to be confronted with a consistent body of rules and regulations.

The development in the nuclear field I

- A precondition of tackling challenges is self responsible personnel who share their knowledge and competence and form an esprit de corps in the plant. If the personnel consists of a lot of experts who only offer their own opinions that may result in a dispersion of the work.
- Rule-based learning is to some extent very important but not an end in itself. Motivated and self-responsible personnel is essential for the future.

Utility Top Management interview

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Technology

- The technology in the nuclear industry is developed and implemented in a conservative way, using only tested and proven components.
  Therefore, improvements usually will be implemented gradually.
  But new technology implies also new challenges, e.g. new digital control technology which is less transparent. Fast modifications are possible but not always comprehensible for operating personnel. There is a need for adequate procedures to assess these technological innovations.

Future

- The preservation of the nuclear industry will come into focus again with an extension of its life time. What seems desirable is an increase in productivity of the plants instead of a decrease.

Metaplan technique

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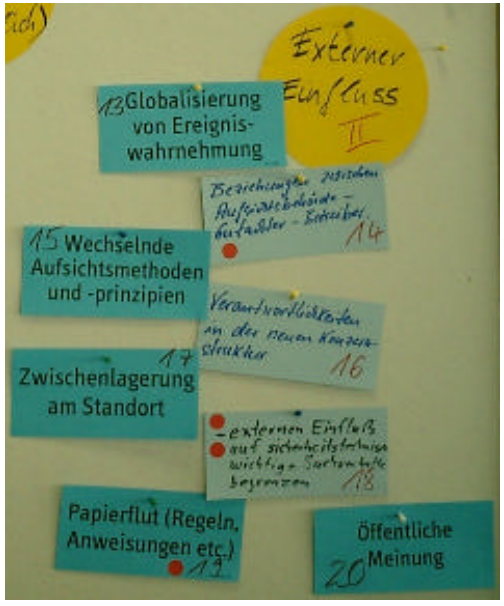
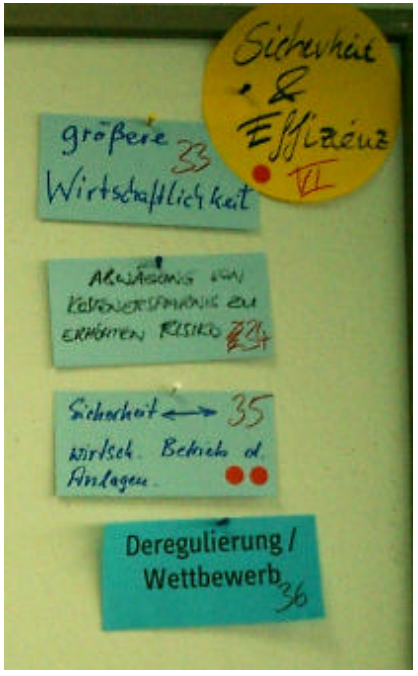
What are the perceived emerging challenges in the management of nuclear power plants?

The aim of the Metaplan technique was to collect emerging challenges using the Metaplan technique.

Participants: **6 Upper NPP Managers**
9 Multifunctional Managers





Metaplan technique: 12 Clusters

Upper Management

Maintaining competency I	Qualification of new technology IV
Vision (perspective) II	Surrounding V
Safety and costs III	Leadership and safety management systems VI

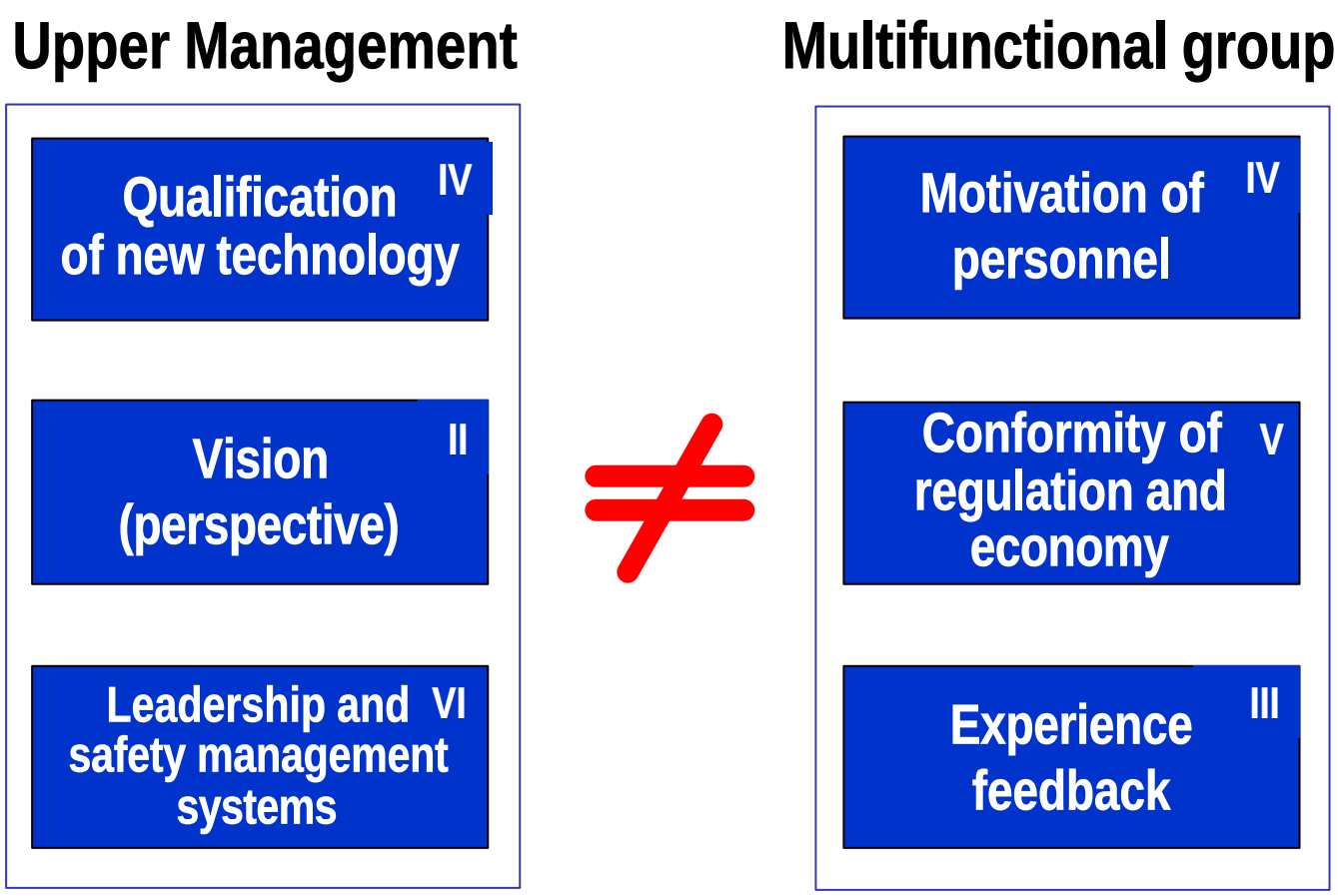
Multifunctional Group

Ageing management I	Motivation of personnel IV
External impact II	Conformity of regulation and economy V
Experience feedback III	Safety and efficiency VI

Metaplan technique: 12 Clusters

Upper Management		Multifunctional Group
Maintaining competency I	≈	Ageing management I
Safety and costs III	≈	Safety and efficiency VI
Surrounding V	≈	External impact II

Metaplan technique: 12 Clusters



Most important challenges

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Upper Management

1. Constraints to cost reduction without loosing safety standards
2. Recruiting, qualification/experience
3. Maintaining competency with focus on opting out (utility, contractors etc.)
4. Know-How-procurement, maintaining competency, education/junior staff
5. Saving the self-responsibility

Multifunctional group

1. Personnel/ ageing management
2. Maintain the personnel, professional and factual capacity to the requisite extent
3. Maintain and enlarge the motivation of the personnel
4. Opting out, Consensus Talks
5. Maintenance/ support of aged technology, qualification of new technology

Phase II

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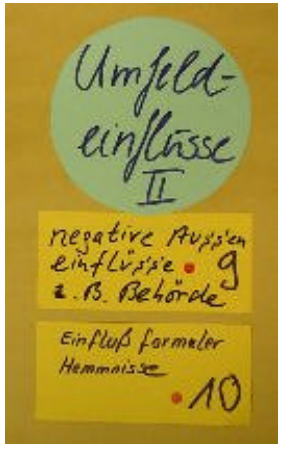
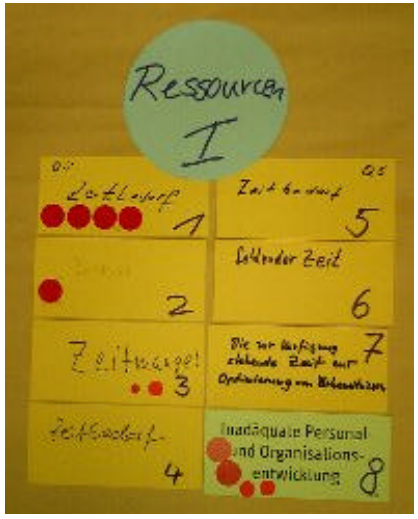
What are the most common hindrances to organizational learning?

Metaplan technique

Participants: 12 Managers



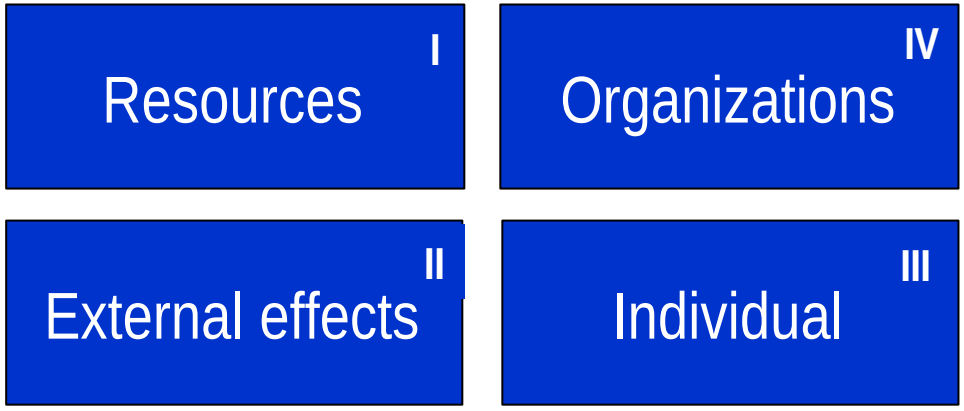


How can they be removed?

Small group discussions with Management

Participants: 6 Managers

Cluster and most important barriers



Most important barriers overall clusters

1. Pressure of time
2. Willingness for changing
3. Inadequate human development and development of organizations
4. Lack of systematic
5. Willingness to communicate and feedback

Small group discussions

1. Faculty thinking (department egoism)
2. Huge number of methods
3. Resources
4. Lack of communication
5. Increasing centralism

In the following the results of the discussions on the five barriers were presented whereby the explanations/denotations of the barriers are followed by different approaches to overcome them.

1. Faculty thinking (department egoism)

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- A company composed of several departments will act effective and future-oriented with the basis of a common objective. The globalization and the following requirements demand to utilize all resources.
- The question discussed by the participants was how to prevent faculty thinking and encourage multidisciplinary thinking and acting:
  - Clear definitions of duties and responsibilities and standardized procedures.
  - The management has to stand behind decisions recognizably.
  - A functional flow of communication helps to integrate employees multidisciplinary. Conserving information for example by writing minutes seems to be indispensable although it necessitates time and money.
  - The willingness to corporate and to share information between departments and employees should be encouraged stronger.

2. Huge number of methods

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- Presently employees are increasingly overwhelmed with in principle useful methods and programs. The employee should be able to maneuver within the different methods.
  - More time should be invested in proving the methods and providing learning aids/tools to convey the safety.

3. Resources

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- Resources run short: requirements to the employees are rising, to little capacities in time and number of employees. Task could not be achieved because of an increased shortage of resources. ‘Presently the gear is gnashing but soon it will be broken’.
  - Enhancement of resources (time and personnel).
  - Improvement of human resource management.
  - An individual willingness to learn.
  - Reorganization of duties and responsibilities.

4. Lack of communication

- There are still problems with post processing of experience, for example the registration of human factors.
  - Paper must kept alive.
  - The resource human as communicator should not be forgotten.
- As further cultural aspect was mentioned the difference between northern and southern way of decision making and discussion processes in Germany.

5. Increasing centralism

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- An idea which was realized to save resources and to simplify processes has turned out to affect disadvantageous on the organization and its plants.
  The organization/company constricts itself with decreasing decision and acting competencies for the single plants. Thus every decision is only managerial following the central way during all instances within the company. The implementation of necessary changes demand lots of resources. Changes are not thought over. Exceptions to the rule are not possible because of predetermined processes.
  Thus combined with an increasing lack of communication between management and basis consecutively personnel cast doubts on changes and modifications.
  - A reorganization of decision processes is necessary.
  - Changes should be anchored deeply within the organization and the employees.
  - Increasing investment in time and personnel.

Conclusion

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- Outcome/benefit for KKK
  - **Open discussion and dealing with the topic helps to find new positions.**
  - **Discussion with scientist of university of Berlin was very effective.**
  - **The sens for learning process becomes part of daily work.**
- Comments on Learn Safe
  - **The outcome of Learn Safe must be implemented in a permanent process.**