
Human Factor from the German Major Hazard Commission

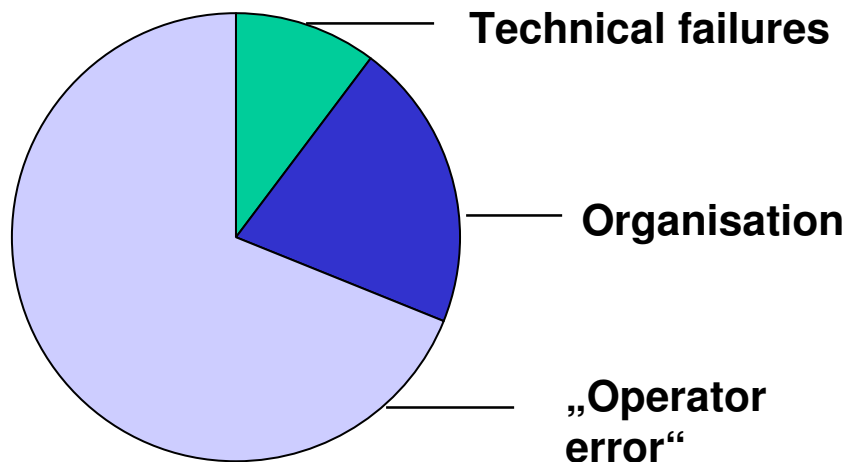
Christian Jochum

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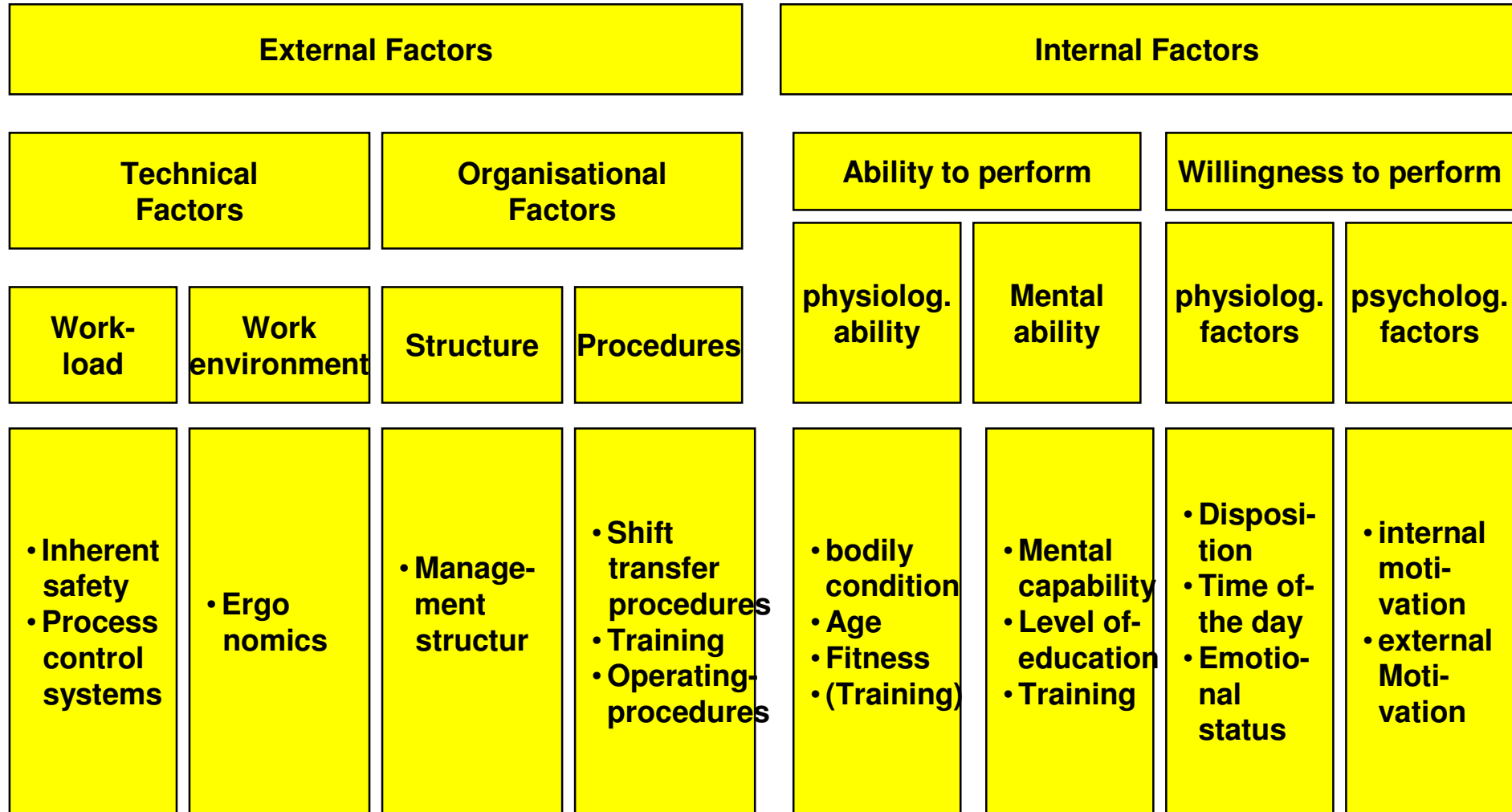
Human Factor as accident cause

- **Accidents in Chemical Industry**



The majority of operator errors are not the root cause, but the consequence of latent system failures (Prof. Reason, University Manchester)

Factors influencing Human Performance



Major Hazard Commission

- according to § 51a Federal Emission Control Act
- reporting to the German Federal Minister for the Environment
- advising the German Federal Government
- issuing (non binding) guidelines for authorities and operators

- 24 members representing the major stakeholders in plant safety
 - operators, authorities, environmentalists, unions, insurance companies, independent experts

The Major Hazard Commission first focused on „operating safety“, too ...

- **Working Group „Operating Safety“ 1995 - 1999, focus mainly on workload assessment, report SFK-GS-19 in 1999**
- **OECD Workshop Munich 1997**
- **Working Group „Human Factors“ since 1999 (chair: U. Stephan, members B. Heins, B. Hermann, B. Ludborsz, ...)**
- **Report on HF-aspects for establishments under SEVESO II (SFK-GS-32) and contributions to other guidelines/reports**
- **in preparation: Report on HF-aspects in emergency management**

(the reports/guidelines of the Commission can be downloaded under www.sfk-taa.de)

... but Human Factor is more.

**At the Major Hazards Commission 1. Workshop in Loccum (March 2002)
a different view of HF was promoted ...**

***The operator is not (only) a risk which has to be managed,
but (above all) a safety resource which has to be developed much
more.***

(„Human Centred Safety Policy“)

... and some first examples have been presented.

The operator's safety performance is strongly influenced by

- **Corporate Culture**
- **Safety Policy**
- **Safety Management Systems**
- **Communication and Information**
- **Approach to human error („error culture“)**

The operator's competence to act has to be optimised by

- **Technical means**
 - **Enable, not disable**
 - **Provide overview, show trends, ...**
- **Qualification**
 - **„ability to act“**
- **Autonomie**
 - **„permission to act“ ... and to be accountable for it! ⚡**

The operator's experience has to be used much more ...

- **Participation in planning and design (expansion of labour rights!? ⚡)**

... and secured by knowledge management

- **... to keep pace with today's rapid organisational changes ⚡**

Better use of the operator as safety resource needs stronger or modified efforts in a number of areas ...

- **Safety Culture (equivalence of technical means, economy and man)**
- **Training (operator, planning & design, management, safety professionals, occupational physicians,...)**
- **Methodology of Safety Analysis**
- **Interdisziplinäre research**
- **Dialogue between all stakeholders**

... and above all companies which dare to test new approaches ...

... however, at the 2. Workshop in Loccum in March 2003 the major German chemical companies showed some reserve and left many questions open

- **Aims of „Loccum I“ are only partly supported**
- **„we are already doing that what we believe makes sense“**
- **„we can solve nearly everything by technical means“**
- **„the progress we had in safety is based on improved technical means, so do not talk against it!“**
- **no new regulations !!!!!**
- **Is that the opinion of SME´s, too???**

Have we really already reached „Best Practice“?

If so, can we formulate it?

There will be many obstacles on the way forward ...

- **in our minds**
- **in our regulations and legal culture**

... but there are strong supporters

- **PRISM**
- **International Social Security Association (ISSA)**
- **German Major Hazard Commission**