Safety Culture and Safety Management

The Swiss Approach to Regulation and Inspection

IAEA Technical Meeting on Safety Culture Oversight and Assessment

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Our approach to oversight on Safety Culture

- History, Experience
- Oversight on Safety Culture, development of a concept
- The solution we found
- What we do
- What we plan to do
- Conclusion

Identified Problems in the Past:

- „Safety Culture“ is often used as „trash bin“ for complex HOF-issues

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- „Safety Culture" is often used as „trash bin" for complex HOF-issues
- „Safety Culture" is often used in a generalized, unspecific way

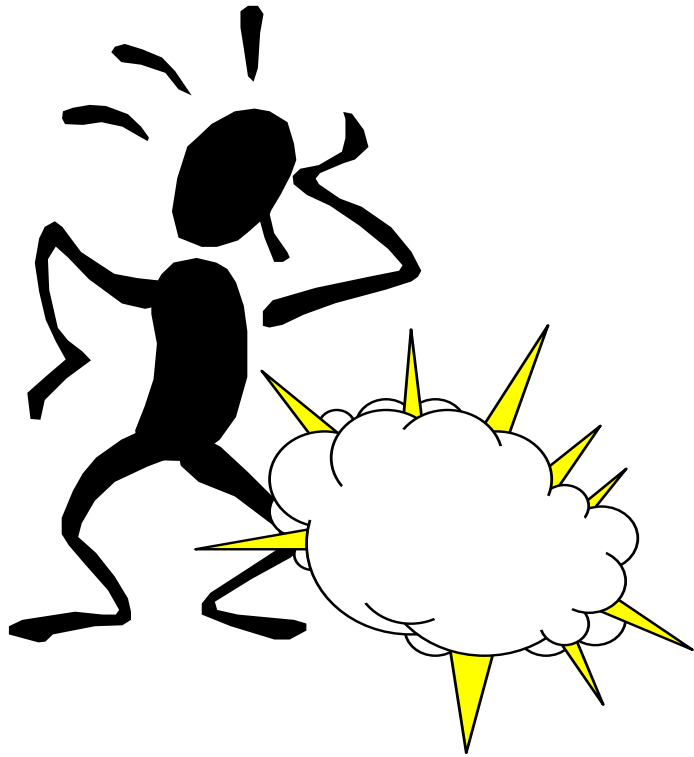
  (non-specific statements on „what happened")

„they have no safety culture"

Identified Problems in the Past:

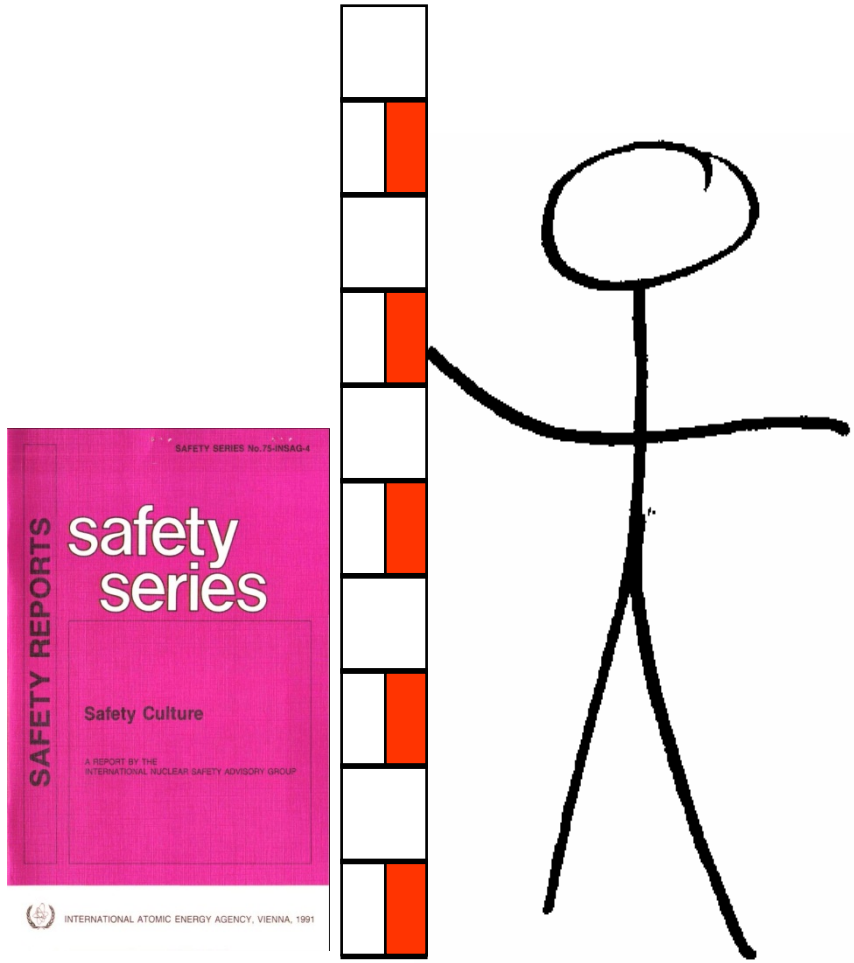
- „Safety Culture“ is used as „trash bin“ for complex HOF-issues
- „Safety Culture“ is used in a generalized, unspecific way
- „Safety Culture“ is used in the wrong context

  (general conclusion from an individual failure to the culture of the organization)



Identified Problems in the Past:

- „Safety Culture“ is used as „trash bin“ for complex HOF-issues
- „Safety Culture“ is used in a generalized, unspecific way
- „Safety Culture“ is used in the wrong context
- Expectations to „measure“ Safety Culture



Identified Problems in the Past:

Not everything that can be counted counts

and not everything that counts can be counted.

Development of a Concept

- Literature Studies
- Participation in international Meetings
- Internal Workshops
- Use of Experts (Social Scientists)

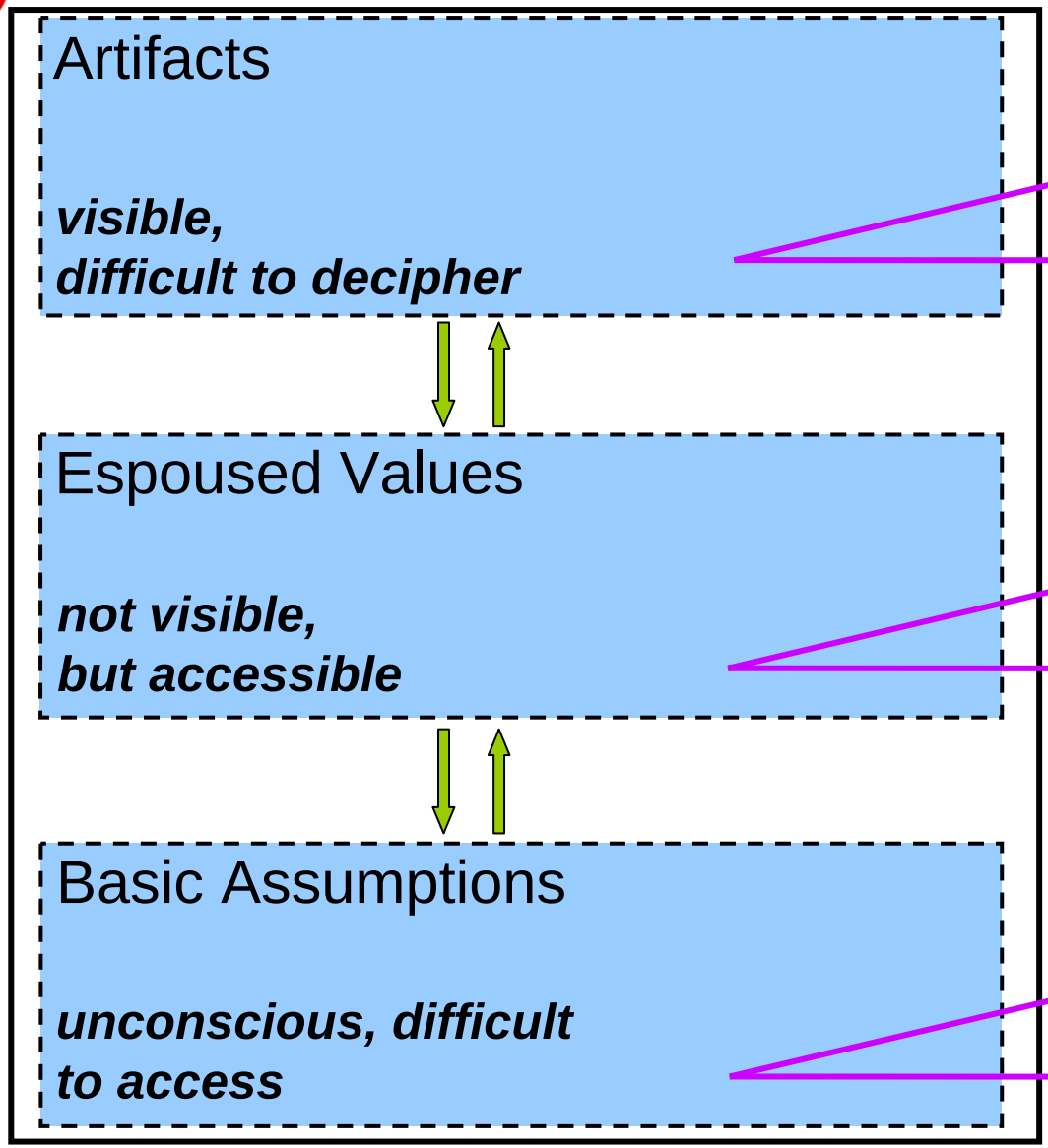
→ Modified view about „Safety Culture“ and Concept for Regulation and Inspection (Regulatory Oversight)

Development of a Concept

Principles used (outcome of an IAEA Consultants Meeting):

- The “Responsibility” Principle (licensee ist responsible for safety)
- The “Don't Make it Worse” Principle (everything the regulator does, influences the safety culture of the licensee)
- The "Foster Organisational Learning” Principle
- The “Regulatory Balance” Principle (expert role, authority role, public role)

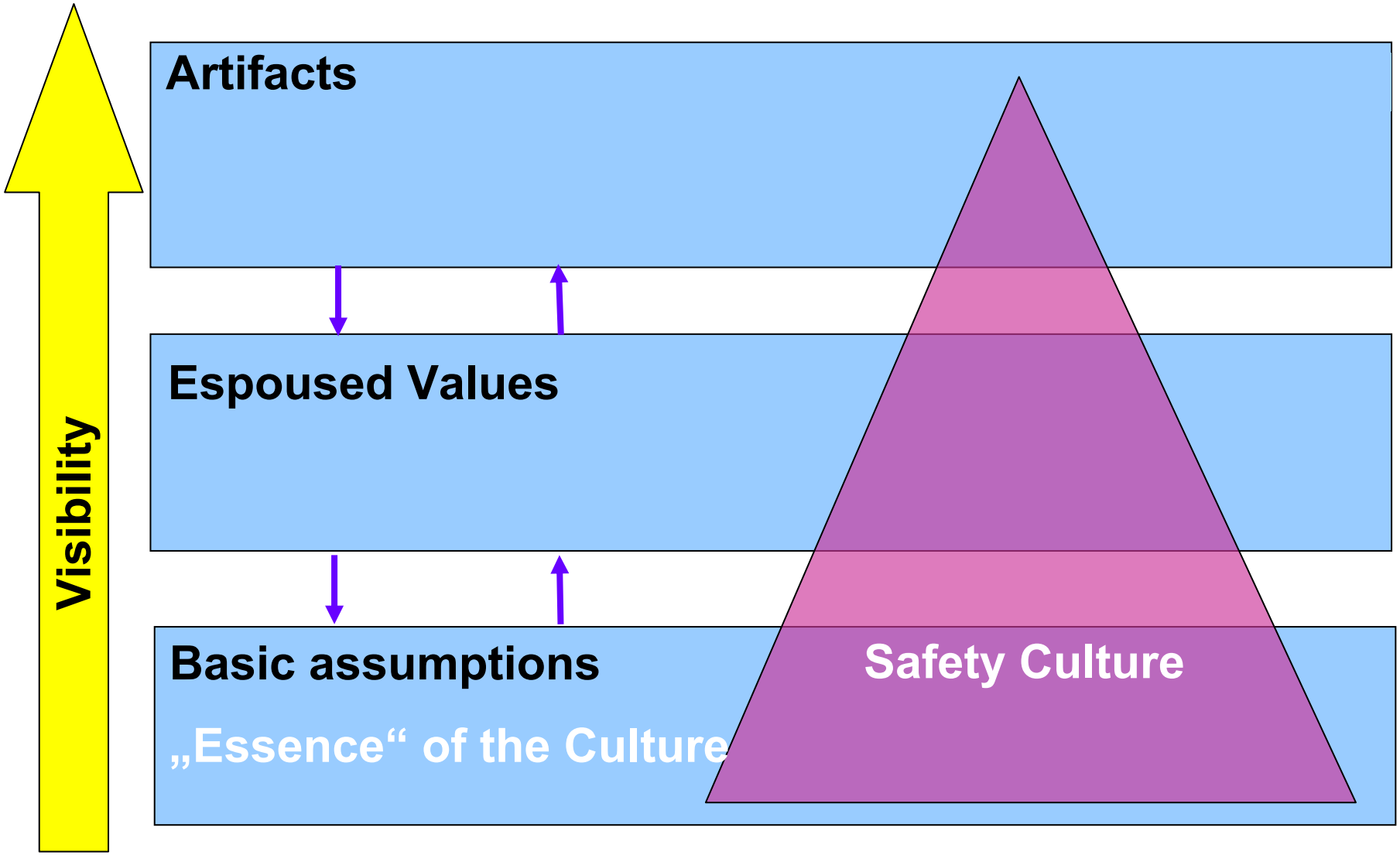
Consistent application of Edgar Schein‘s Model of Organizational Culture.



- Architecture and design
- Regulations and procedures
- Housekeeping
- Condition of techn. Systems
- Behaviour of individuals

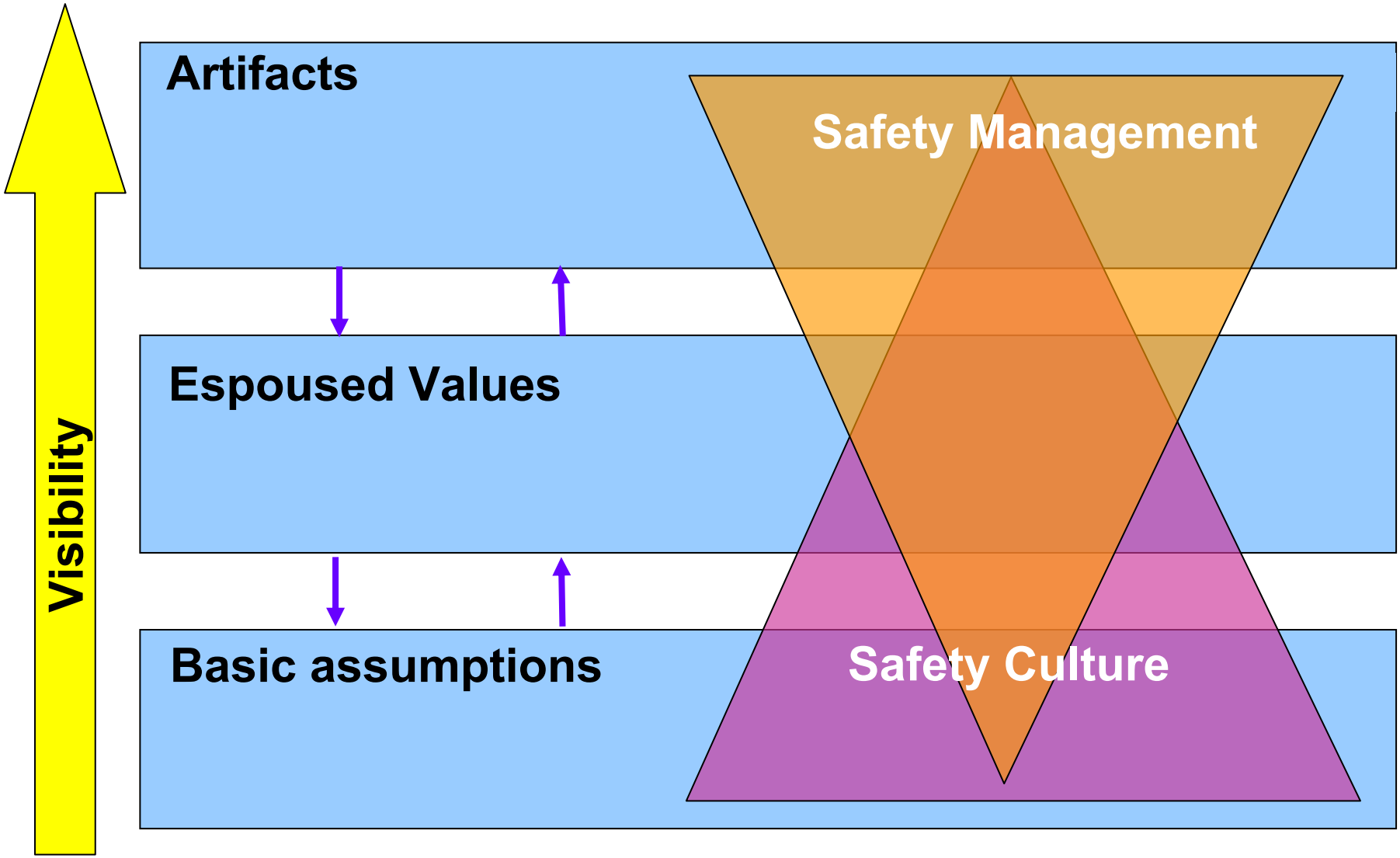
- Safety is the top priority
- Blame-free work environment
- Errors are a learning opportunity
- Fostering team work

- Predominant image of humans (Accidents are caused by carelessness)
- The boss expects productivity
- Safety is important


Artifacts
Espoused Values
Basic assumptions
„Essence“ of the Culture
Safety Culture
Visibility

Considerations taken into account:

- Regulation and Inspection in the area of Safety Culture needs an approach that is different from that in the technical area.
- Safety Culture cannot be an issue for direct regulation by the safety authority, because…
  - Safety Culture cannot be prescribed,
  - There is no „best way“ in the area of Safety Culture,
  - Concept of Safety Culture has a complex nature, its assessment is subjective and arbitrary to some extent,
  - The accessibility to Safety Culture by the regulator is limited,
  - The safety authority must not take the responsibility from the licensee,
  - Self-regulation and self-assessment by the licensee increases it‘s own motivation.


Visibility
Artifacts
Espoused Values
Basic assumptions
Safety Management
Safety Culture

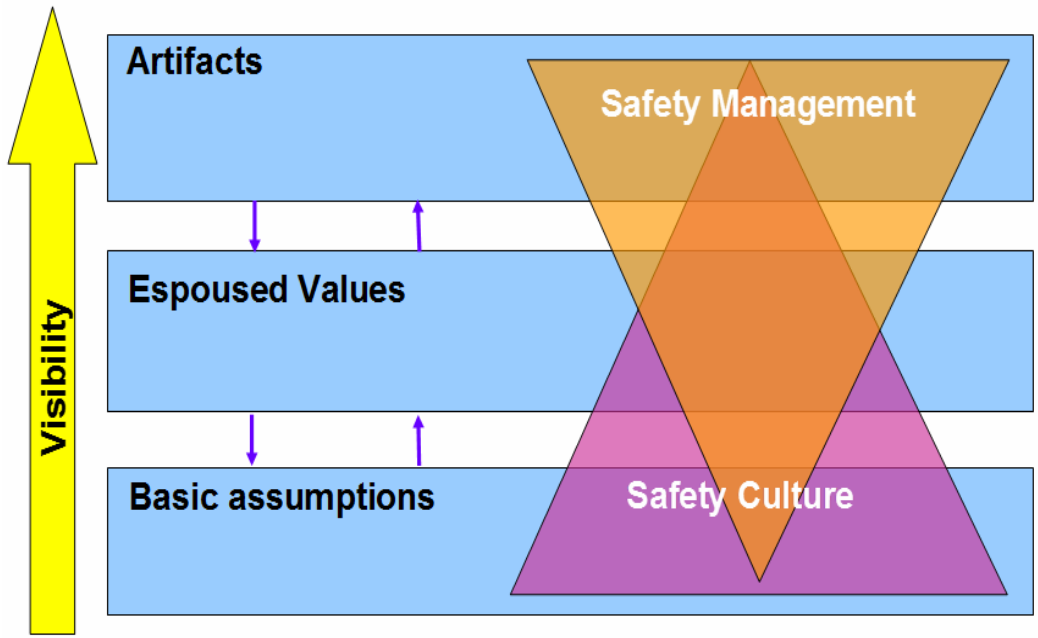
Conclusion: Oversight on the accessible parts of Safety Culture

Due to these limitation, ENSI limits it‘s oversight on safety culture to the accessible part of Safety Culture. In terms of Schein‘s model, to

Artefacts and Espoused Values

They

- *can be observed*
- *can be inquired*
- *can be directly influenced*



Conclusion:

Oversight on Safety Management

ENSI-G07

Organisation of NPPs

ENSI-G07

- *General requirements on Structures and Processes*
- *Requirement to analyse the own Safety Culture*
- *Define activities to foster a good safety awareness*
- *Maintain a Mission Statement on Safety Culture*

  (common understanding of SC, basic principles of the SC to aspire, means to foster good safety awareness, how to assess the effectivity of these means and activities)
- *Leadership*

  (Managers demonstrate in their activities their commitment to the Mission Statement on Safety Culture)

What we do:

Regular Inspections on Safety Management issues according ENSI-G07
(proactive and reactive)

Safety relevant processes (e.g. decisions, modifications, maintenance, tag-out, etc.)

- Suitability of structures and processes
- Systematic application of processes by the NPP
- Outcome of the processes

In the case of deviations: Requirement of investigation and corrective action on *this specific (and similar)* subject!

Results are used for systematic Safety Evaluation!

What we do (ct´d):

Regular and thorough Event Investigations

we investigate:

- Technical issues
- Contributions of Human and Organizational Factors to the event
- Decisions in the contributing factors, decisions during the event
- Implementation of corrective actions
- Decision in defining and implementing corrective actions
- Evaluation of the corrective actions
- Evaluation of the organizational learning process of the licensee

If necessary: Requirement of additional investigations and corrective action on *this specific (and similar)* subject!

Results are used for systematic Safety Evaluation!

What we do (ct´d):

Annual Management Meeting (ENSI - NPP)

- Vision, Objectives
- Changes
- Resource allocation (personnel, training, safety investments)
- Safety Culture activities (overview)
- Specific observations in the area of SC (if any)

What we do (ct´d):

Biennial Discussions on Safety Culture Topics
(proactive, topics given by the regulatory body)

- Discussion and reflection of the topic (audience: Managers, members of the Safety Culture working group, etc.)

- Analysis of the gathered data
  Development of hypotheses

- Feedback: Presentation of the hypotheses to the plant (same audience)
  Discussion of the hypotheses with the audience

What we do (ct´d):

Biennial Discussions on Safety Culture Topic
(proactive)

Expectations of ENSI:

- Foster a common understanding of Safety Culture issues
- Get an impression how the plant deals with Safety Culture issues
- *Foster the self-reflection process at the NPP*

Results of discussions are ***NOT*** used for systematic Safety Evaluation!

What we do (ct´d):

In preparation:

ENSI Opinion Paper on Safety Culture

- Demonstrate to the NPPs and to the public ENSI‘s understanding of Safety Culture
- Demonstrate to the NPPs and to the public ENSI‘s activities in the area of Safety Culture
- Foster a common understanding of Safety Culture issues between ENSI and NPPs

What we plan to do (ct´d):

Gathering information from technical inspections

During technical inspections a vaste amount of information on Safety Culture information may be gathered by technical inspectors (meetings, in observations during tests, in discussions, in coffee breaks, etc.)

Precondition to do this:

- Competence of the Inspector in Human and Organizational Factors (HOF)
- Sensibility to these issues
- Insight and distance to the organization
- A tool to systematically collect and group this information
- A specialized Section (HOF-Specialists) within the Regulatory Body to validate and analyse the information
- **Ressources**

Summary

- We ***don‘t*** rate safety culture
- We ***don‘t*** assess the overall safety culture
- *We* **don‘t** *give a general statement on Safety Culture*

Instead:

- We ***do*** assess and evaluate specific findings, observations in Safety Management
  (things that can be observed or inqured, artefacts and espousded values)
- We ***do*** address these specific findings and we require corrective actions if we detect deficiencies
  (things that can be influenced)
- We ***do*** follow up the implementation of solutions
  (organizational learning, continual improvement)