Some thoughts about safety culture

Carl Rollenhagen

Royal Institute of Technology and Vattenfall Nuclear

How it all started for me

- During the early 90´s I was engaged in performing an "independent" organizational safety review of a nuclear power plant in Sweden.

- As part of that task I constructed a safety climate questionnaire distributed to all personnel at the plant.

- Later this instrument was applied to a Swedish nuclear plants and later also updated.

Some lessons learned

- There was some confusion initially about what "kind of safety" that was investigated by the survey – in later revisions we learned to separate between security, nuclear safety and occupational safety.

- The survey included "free text" sections where the respondents freely could describe how they perceived safety issues – this was a good source of information but we had no really good way to sort the information and the data could have been used better.

- Some organizations tended to misuse the statistics and give more meaning to the "mean scores" than I thought was motivated for a survey of this type.

- Together with colleagues of mine we have published some results from these surveys in *Safety Science*. The most interesting finding is that various professional groups seems to be rather similar in their responses regardless of power plants.

Experiences from interview studies I have participated in

- Managers of organizations often give a biased view of safety culture – they have learned what to say.

- Consequently, it is important to also get information from the non-managers.

- What people say and what they think might differ radically – measures of safety culture often capture group norms but perhaps not really more basic assumptions

General lessons

- Professional subgroups might sometimes be more interesting to explore than "organizations"
- The official received view is one thing, what people really think is another thing.
- It is often very interesting to capture a persons "cognitive complexity" regarding an issue and this can be achieved by trying to get them reasoning about causality and the scope of different factors they believe is involved in a problem.

Misuse of the concept safety culture

During the years I have found several examples of how the concept of "safety culture" has been misused (see article in Safety Science, 2010).

1. The concept of safety culture is sometimes used as an excuse for not doing more expensive investments in technological design.

2. The concept of Safety Culture is often treated as a "systemic concept" meant to include everything – In my view safety culture is a collective aspect of humans and should not include **structural factors** (but these structural factors can of course be a result of safety culture and they influence SC).

Ethics and safety culture

- Far to little research has been invested in the **ethical aspects** of safety culture. I prefer to speak about **safety ethics** as being an important part of the safety culture concept.
- Ethics is often only implicitly implied in much safety culture discussion but ethics should have a more up-front focus.

So what is safety culture?

- A construct foremost about peoples collective values, knowledge, beliefs, behavior, etc. – it's the **collective mind set** that characterize groups of people.
- From that departure it is interesting to try to understand **cognitive maturity** with respect to thinking about safety, including ethics.
- The concept of "system thinking" might be a good starting point for such investigation and investigate how it connects to culture.

Is there a need for another distinction?

- I have previously suggested that it might be interesting to explore the possibility of making a distinction between safety culture and **safety quality.** The later is a more objective characteristics of structures (physical, organizational etc) that support safety (artefacts in the language of Schein), whereas safety culture is a much more subjective "world view" about safety.