

International Conference on Human and Organizational Aspects of Assuring Nuclear Safety –Exploring 30 Years of Safety Culture



Contribution ID: 137

Type: **Invited Presentation**

Systemic Approach to Safety from a Regulatory Perspective

Wednesday, 24 February 2016 13:30 (15 minutes)

Synopsis

In Sweden and especially in the Swedish oversight of nuclear power plants there has been a strong commitment to the interactions between Man Technology and Organisation (MTO) for many years. Safety issues and the importance of working with these issues have often been highlighted in specific oversight actions. Since 30 years there has been a tradition and a development of experience in Sweden taking a systemic MTO approach to safety. Inspection teams have been created with both psychologists and technical expertise in order to cover the whole MTO perspective during oversight inspections at the nuclear power plants.

Safety is based on preventive actions where both technology and human behaviour are taken into account. To do this, it is important to have knowledge about the different factors that influence the performance of individuals, groups and organizations. However, it is also important to remember to not only discuss humans, management and organisations in terms of their limitations, errors and shortcomings but also in terms of their strengths in stopping a chain of events, in learning, inventing and improving.

Having an integrated view of safety, focussing on the relations between human, technology and organisation (MTO) refers to a systemic perspective on how radiation safety are affected by the relationship between: Human's abilities and limitations; Technical equipment and the surrounding environment; The organization and the opportunities this provides.

The Section of Man-Technology-Organisation in the Swedish authority consist today of 12 Human factors specialists with behaviour science education. The section is responsible for the oversight at nuclear power plants in many areas; safety management, leadership and organisation, safety culture, competence assurance, fitness for duty, suitability, education and staffing, knowledge management, working conditions, MTO perspective/ergonomics of control room work and plant modification, incident analysis and risk analysis from the MTO-perspective and learning from experience (operational experience).

The SSM (Swedish authority) regulations concerning safety in certain nuclear facilities have explicit requirements and general recommendations in the above-mentioned areas. These requirements and general recommendations are to a large extent based on the IAEA safety standards.

Country or International Agency

Sweden

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