



Business from technology

NKS/DIGREL

Guidelines for reliability analysis of digital systems in PSA context

Project seminar, September 14, 2010

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Agenda

9:30-10 Coffee

10-12 Welcome and introduction to the topic

- project aim, scope and basic concepts*
- summary of the international literature survey*
- situation in Finland and Sweden, practices, needs and problems*
- OECD/NEA WGRISK activity on "Development of best practice guidelines on failure modes taxonomy for reliability assessment of digital I&C systems for PSA"*
- information about other related activities*

12-13 Lunch

13-15 Discussions

- continuation with the presentation items in the morning*
- planning of next steps*

15-16 Final discussion, end of meeting

Project aim

- The objective with the project is to provide guidelines to analyse and model digital systems in PSA context
- To survey state-of-the-art and the needs of industry (1. year)
- To jointly develop practical guidelines (next years)
 - International WGRISK task (focused on failure modes taxonomy)
 - Nordic effort (aims to cover wider scope of issues)

Scope

- Safety critical digital I&C of nuclear power plants
 - Operating plants, new-builts, Gen IV
 - Protection systems and control systems
 - Hardware and software
 - Development, operation and maintenance
 - Failure detection and recovery means
- Traditional reliability analysis methods (FMEA, Fault tree analysis)
 - Seen most applicable from the PSA-modelling point of view
 - Other methods can be also considered provided that the results can be practically integrated into current PSA models