Functional analysis and system risk control
International seminar

Targeted audience
Decision makers and managers in charge of infrastructure projects or transport systems
Managers in charge of defining service quality and safety/security policies,
Advisers and consultants in transport projects - Risk control experts

Objectives
To evaluate contributions of a systemic and functional approach to specify needs and to obtain consensuses,
To know innovating approaches for risk control based on « defence in depth » concept and its application to complex system as well as railway transports.
To use these tools to model and manage existing system but also, to anticipate and help with decisions according to system evolutions.

Paris	**2010, May 31 - June 04**	Registrations : Tél : +331 4251 6116 Fax : +331 4251 6131	**Session n°40008**	3 750 € + TVA Lunches included

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May 31

Functional Analysis and Value Engineering Approaches and Tools (First Part)

Succinct history and basic principles.

- benefits of approach within upstream phase while expressing needs and design choices,
- association of the quality of services offered to users and the search of economic profits

Expression of needs and constraints

- How to elaborate a functional needs specification: for who? For what? With who?
- How to exploit a systemic approach to control & innovate ?
- How to formalize the awaited services of a system, of equipment, of an organization or of a data processing system?
- How to understand, to formulate and to classify needs and constraints according to a hierarchical system for the different stakeholders?

Examples within domain such as roads, harbours and railways

Mme. LAVAL

June 1st

Functional Analysis and Value Engineering Approaches and Tools (Second Part)

Succinct history and basic principles.

- To understand engineering of complex systems: which processes? Which stages? Which actors?
- To establish scenarios of possible solutions
- To have objective criteria for evaluation and choice of the solutions just necessary
- To apply approach and tools for qualitative and economic diagnoses.
- To anticipate the risks related to the environment and the choices of design.

Examples within domain such as roads, harbours and railways

Mme. LAVAL

June, 2nd & 3rd

Risks Control.

- Notions of hazard, risk, safety and security
- The rigour of risks control process: anticipation, evaluation, risk reduction and risk follow up,
- Risk policy elaboration and implementation
- From policy to techniques and tools for analysis: precursors and indicators follow up, qualitative or quantitative approaches (preliminary hazard or risk analysis, failure mode analysis)
- Culture of the risk and the state of mind.

M. VALANCOGNE et M. COINTET

Defence in Depth (first part)

Appropriation of defence in depth concept

- History and interest of concept
- A systemic approach to control final effects on sensitive element such as men, system, company, environment,
- Finality of defence and logic of hazard generation
- Risk acceptability levels,
- Principles of defence means.

Mme LAVAL et M. COINTET

June, 4th

Defence in Depth (Second Part)

Approach and tools for defence in depth

- How to identify and design a defence system?
- How to model it: for who? For what?
- Defence system diagnosis: how to carry it out? What results in term of recommendations?
- How to capitalize with reference frame?

Synergy of functional and defence in depth approaches: clarification of actor's responsibilities (project managers, security expert, decision makers).

M. COINTET et Mme LAVAL