

13th UIC Sustainability Conference



ISO 14001:2015

Environmental Risk Management applied to rolling-stock
maintenance and cleaning activities

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SNCB maintenance workshops activities



3 types of facilities:

- 4 Central workshops for rolling-stock overhaul
- 7 Traction workshops for rolling-stock maintenance
- 14 Small maintenance facilities for daily rolling-stock cleaning and limited repairs.



ISO 14001:2015



- The scope of ISO 14001:2015 is to provide organizations with a framework to protect the environment and to fulfil the environmental requirements taking into account social and economic needs

- Major changes of the new version:

- The integration of the process approach (from ISO 9001:2015)
- A stronger commitment from leadership
- A greater awareness to life-cycle thinking and the control of external processes

Risk Management

- The consideration of the organization's situation
- The consideration of the stakeholders needs and expectations
- The planning of actions to implement when facing risks or opportunities resulting from an analysis of the organization's situation and/or an identification of the stakeholders needs and expectations.



Risk Management: a real need



Examples of projects:

- Graffiti removal station:
 - Graffiti's are removed on a soil protected platform, waste water is discharged into the sewerage. Due to the overuse of products and the lack of follow-up of the work instructions, waste water discharge levels are too high (up to 100x !).
- A new train-wash was put into service but:
 - No planning for a follow-up of waste water discharge levels.
 - Written maintenance instructions were not yet available
 - Training of staff responsible for daily maintenance was not yet provided
 - Transfer of hazardous cleaning products (from a 1000 litres container to a fixed tank) takes place in an inadequate area (open-air, no soil protected surface,...).

➔ Some projects aiming at decreasing environmental impacts actually lead to unexpected risks




Risk Management SQE



- Risk management is addressed in another ISO standard (ISO 31000)
- Definitions:
 - Risk : effect of uncertainty on objectives.
 - Risk management : coordinated activities to direct and control an organization with regard to risk.
- Principle: the concept of a risk-based approach includes for instance the implementation of preventive actions to get rid of potential non-conformities caused by:
 - The situation of the organization (and its evolution with time);
 - Stakeholders needs and expectations (and their change with time);
 - New projects or improvement projects.
- 3 tools are presented hereafter:
 - SWOT analysis (Strengths – Weaknesses – Opportunities – Threats)
 - Root Cause Analysis (RCA) diagram or 'causal tree diagram'
 - The Environmental Green Light concept





Internal	Strengths	Weaknesses
	<ul style="list-style-type: none"> – Staff properly trained to the handling and storage of hazardous products – As little stock as possible – Well-defined zones – Labels prepared ahead of use – Enough adequate safety storage cabinets 	<ul style="list-style-type: none"> – Lack of adequate equipment (out of order) to transport hazardous products → Action n°2.1 – Limited space to manoeuvre → Action n°2.2 – Limited storage surface → Action n°2.3 – Inadequate spill containment pallets/trays (plastic for instance) → Action n°2.4 – Staff NOT properly trained to the handling and storage of hazardous products → Action n°2.5 – Shortness of staff to ensure proper storage → Action n°2.6
External	Opportunities	Threats
	<ul style="list-style-type: none"> – Existing master agreement for handling equipment rental – Existing master agreement for the hiring of a firm specialized in hazardous products transportation (ADR) 	<ul style="list-style-type: none"> – Insufficient budget for the rental of adequate handling equipment (+ staff) → Action n°2.7 – Trade union against the hiring of a private firm → Action n°2.7

Actions :

N°2.1 : to repair or buy equipment for goods transportation. If swift buying is impossible, rent this equipment in the meantime.

N°2.2 : to evaluate if the space available for manoeuvres can be increased.

N°2.3 : to evaluate if an extra storage zone is conceivable or not.

N°2.4 : to order new spill containment trays/pallets.

N°2.5 : to organize staff training about the handling and storage of hazardous products

N°2.6 : to evaluate if some staff members can be called on to help store (new) stock.

N°2.7 : to think about alternatives when facing adversity (insufficient budget, trade union conflict).

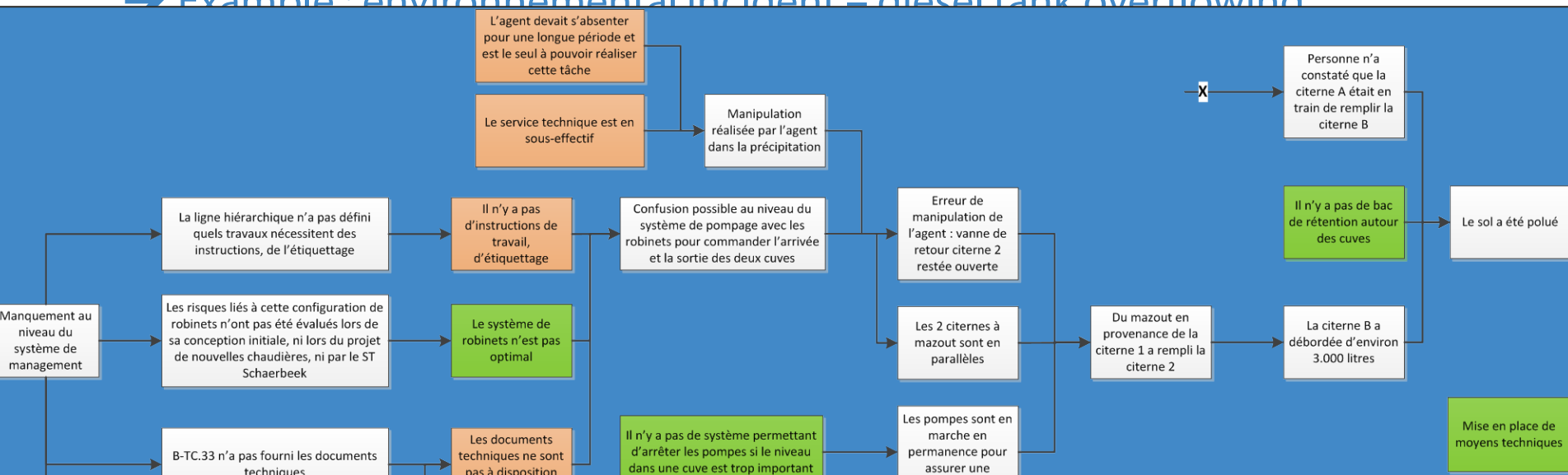


Non-conformities and accidents analysis through the use of a tree diagram (root cause analysis)



- The causal tree diagram is a technique based on a systematic analysis of malfunctions used with preventive aim. This method allows to:
 - To look for objective and deep causes of an accident (or any other non-conformity) ;
 - To act so that this accident or non-conformity does not happen again ;
 - To learn in order to prevent risks elsewhere or under other circumstances within the organization.
- Objective : to go back up to failures in the Management System

➔ Example : environmental incident – diesel tank overflowing



Environmental Green Light



- The objective of the Environmental Green Light concept is to analyse the potential impacts of a new project / installation / purchase
→ during the writing of specifications!
- Goal : not letting any risk / potential environmental impact inside the organization.



Date							
Activity/Product/Service							
Location(s)							
			Impact Y/N	If yes, description of the impact	Existing management options	Management options to apply	Action ref.
Environmental aspects	IN	Commodity (C)					
		C : energy					
		C : water					
		Hazardous products					
	OUT	Waste					
		Water					
		Air					
		Soil					
		Biodiversity					
		Noise/vibrations					
		Mobility					
		Lighting					
		Health/safety					
Applicable legal requirement							
Involves a section of the environmental permit ?							
Requires a change in the environmental permit ?							
Requirements that need to be added to the specifications ?							
Recommendation(s) :							

To ensure success, we have:



1. To set up tools with clear methodology and objectives
2. To inform and convince environment advisors in maintenance facilities
 - ➔ simultaneous use of the tools by trainers and end users during an information and transition period, while also providing assistance.
 - ➔ perfect time to convince end users of those tools added value
3. To teach end users to become autonomous (but still control their end results)
4. To let end users become fully independent (though guaranteeing assistance if need be).

➔ We are currently dealing with step 2



Expected results

- Total autonomy is expected by 2020 following certification according to the new standard version (ISO 14001:2015).





Thank you for your attention!

Any questions ?

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