

GLOBAL : A multicriteria approach for risk assessment of dangerous goods logistics.

Brigitte NEDELEC, Cecile DEUST, Chabane MAZRI, INERIS

Abstract

Our modern societies offer a comfort that requires the storage, handling, and transportation of dangerous goods which may generate catastrophic consequences to environment.

Up to now, every logistic phase (production, storage and transportation) is considered independently when assessing risks.

The adoption of this fragmentary approach has largely demonstrated its limits. Actually, reducing storage capacities generates an equivalent augmentation of transportation flows, and thus, of accidental risks.

The GLOBAL project aims to propose a methodological contribution that combines the theoretical framework of decision aid approaches with classical techniques of risk assessment in order to reduce risks on the whole logistic chain.

More precisely, by mobilising a classical decision aid framework, the GLOBAL approach provides a support to public and private decision makers in order to:

- § Identify realistic logistic options;
- § Formulate decision criteria that can reflect all the risk dimensions;
- § Assess the risks generated by every logistic option;
- § Aggregate those information using an ELECTRE approach.

The presentation will firstly introduce the specific context of dangerous goods logistics and theoretical challenges that need to be tackled. Secondly, the proposed methodology will be described and the assumptions on which it relies will be detailed.

Key Words :

Multicriteria decision aid, risk assessment, dangerous goods logistics.