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A THEORETICAL APPROACH OF A NEW INDEX-BASED METHODOLOGY FOR RISK ASSESSMENT OF PIPELINES (I)

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Abstract

Environmental and territorial compatibility of industrial activities can be evaluated by considering several criteria, usually formalized in the context of a Strategic Environmental Assessment (SEA); the pipelines sector, however, is not as well standardized as others. In this paper, a new methodology to evaluate territorial compatibility of proposed pipelines is presented. This approach can be useful to assess proper development compatibility of oil and gas pipeline networks, and it could represent an example of specific technical guidelines supporting territorial planning and management. The evaluation criteria in the proposed method are both qualitative and quantitative, and are consistent with those used for similar fixed installations (e.g. LNG storage). The methodology uses a specific checklist in order to calculate a relative pipeline risk index. The checklist and risk index are thus easily determined and compared when different technical solutions are examined, in order to rank them accordingly to their environmental compatibility and safety aspects.

Key words: environmental compatibility, pipelines, risk index, territorial planning

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