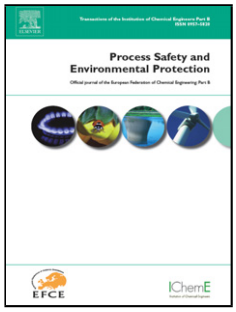

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Assessment of attack likelihood to support security risk assessment studies for chemical facilities

Revised version

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Highlights

- The attack likelihood contribution to security risk is evaluated
- A probabilistic risk analysis approach, supported by a model based on Bayesian Networks, is adopted to analyse knock-on events
- The attractiveness and attack mode are addressed through a specific approach
- The proposed model includes the quantitative performance assessment of the physical protection systems adopted as security countermeasures
- A case study is provided to demonstrate the developed theory/model

ABSTRACT

Chemical and process facilities may be the target of external acts of interference, aimed at causing cascading events, which may escalate into severe fires, explosions or toxic dispersions. Recent accidents that occurred in European chemical facilities presented these features, showing that industry must address with the greatest urgency the need of increasing the attention to security issues. Objective, performance-based methods to verify