

Risk Analysis in Maritime LPG Transport: A Systemic Approach for Enhanced Safety

Smaiah Meriem

LRPI Laboratory, University of Mostepha Benblouaid – Batna 2, Batna, Algeria

Abstract:

Maritime transport is crucial for global oil and gas distribution, accounting for over 90% of worldwide production. This study investigates the safety of a maritime production facility, specifically the LPG tanker RHOUD EL FARES, within the context of risk control at the port of Bethioua. Employing the MADS/MOSAR methodology, a collaborative approach that values all perspectives, we analyzed potential hazards. MADS provided a systemic model of danger, while MOSAR facilitated risk analysis and the identification of prevention, protection, and mitigation measures. Our approach enabled us to identify danger sources, develop scenarios of undesirable events, and propose hierarchical safety barriers to achieve an acceptable level of industrial risk.

Keywords:

Maritime safety, MADS-MOSAR, systemic model, risk analysis, domino effects.