ABSTRACT

Siting regulations and standards for liquefied natural gas (LNG) terminals have evolved along different paths within Europe and the United States (U.S.). The 49 Code of Federal Regulations (CFR), Part 190\(^1\) continues to delineate the United States process to adopt and revise safety regulations that site LNG terminals and smaller facilities. Embodied in these regulations are rich legal and regulatory traditions that are unique to the U.S. perspective. For example, the public is encouraged to petition existing regulations and to comment on regulatory proposals. Litigation within the U.S. court system is another means by which industry and the public may seek regulatory change. This approach promotes public involvement in governmental oversight and creates a distinctive obligation and accountability for U.S. regulatory agencies, which uniquely shape technical, safety, risk mitigation, and societal risk perspectives for siting LNG terminals.

European traditions shape siting regulations for LNG terminals as well. Though American siting guidance includes references to the National Fire Protection Association’s NFPA 59A\(^2\) and 49 CFR, Part 193\(^3\), European developers also apply the guidance within EN-1473\(^4\) – a risk-based case-by-case analysis directive. The NFPA 59A standard is applied for a basis to examine property line spacing as they pertain or may relate to off-site hazard impacts. The European approach applies the assessment and suitability of code compliance and the application of accepted engineering practices. In addition the approach incorporates the application of empirical risk assessments and computational modeling to reach an understanding of risk exposures. European policies set limits on the population’s cumulative exposure to facility risks and require LNG facility developers not to exceed established risk criteria.

This paper describes how the U.S. and Europe site LNG terminals, identifies key differences in their risk-based approaches, and explains why these differences exist. This discussion also examines historical precedents that have influenced regulations and approval processes for siting LNG terminals within each continent.

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\(^1\) Title 49, Code of Federal Regulations, Part 190, Pipeline Safety Programs and Rulemaking Procedures.
\(^4\) EN-1473, Installation and equipment for liquefied natural gas. Design of onshore installations.