

With demand for natural gas expected to outstrip supply in the North American market, **Liquefied Natural Gas (LNG)** is the only cost-effective way of importing natural gas from the international sources to the North American markets. The very reason that makes LNG viable (the large reduction in volume) also is responsible for the potential hazard to the public. Operators looking to build liquefaction facilities, transport it to market, and build receiving and regassification terminals face not only technical challenges but must overcome local community opposition. BakerRisk provides assistance in:

- Selecting appropriate design and layout,
- Understanding the hazards and risks,
- Protecting public safety,
- Determining how to protect your assets, and
- Providing support for public presentations.

Baker Engineering and Risk Consultants, Inc. (BakerRisk) partners with your LNG project team working together to overcome the many technical challenges associated with LNG.

Due to the cryogenic nature of LNG, traditional consequence models do not work well and large variations in the results of the consequence



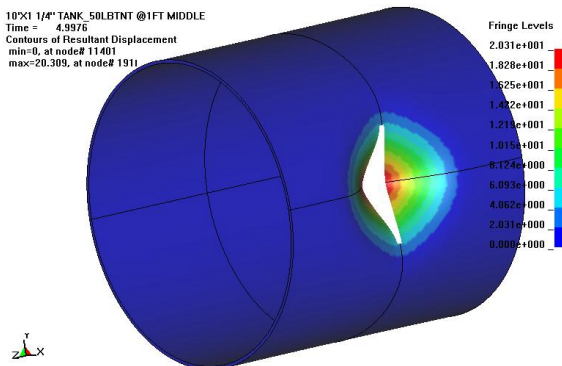
LNG Storage Terminal and Marine Dock

analyses can occur, depending upon the assumptions utilized. This causes confusion and mistrust among community action groups. BakerRisk's experts use applied research and state-of-the-art models to provide a solid scientific basis for scenario development and hazard prediction.

BakerRisk is addressing the need for further research on this controversial subject by leading a Joint Industry Research Program to study hazards of LNG spills on water. The objective of the SafeLNG program is to better understand the behavior of LNG spreading and evaporation when spilled on water, and to develop consequence modeling parameters that can be utilized for more consistent and defensible consequence analyses.

On behalf of the Gas Research Institute, BakerRisk professionals have been involved with R&D projects to characterize LNG hazards. We have created tools and protocols that help characterize hazards of LNG spills on land that are used by government agencies and industry today.

BakerRisk can provide clear, concise, and defensible technical data to our clients in the LNG industry by leveraging state-of-the-art research data and software tools for managing LNG hazards.



Finite Element Analysis of Storage Tank Rupture



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About BakerRisk

Baker Engineering and Risk Consultants, Inc. is one of the world's leading explosion analysis, structural design, and risk engineering companies. BakerRisk provides comprehensive consulting, engineering, laboratory and range testing services to government agencies and private companies who are involved with dangerous, highly hazardous, reactive, or explosive materials.

◆
Blast Effects & Explosion Testing

◆
Dynamic Structural Analysis and Design

◆
Risk Engineering

◆
Process Safety

◆
Incident Investigations

◆
Reactive Chemicals Testing & Management Systems

www.BakerRisk.com

LNG

Engineering Support

BakerRisk consultants and engineers have provided integrated engineering, research, and risk assessment services to assist our clients in managing LNG hazards. The studies conducted span several types of operations in a variety of regions:

LNG Plants

- Northern Sumatra
- Qatar
- Kalamantan

Regassification Facilities

- Continental US
- India
- Korea

Floating LNG Terminals

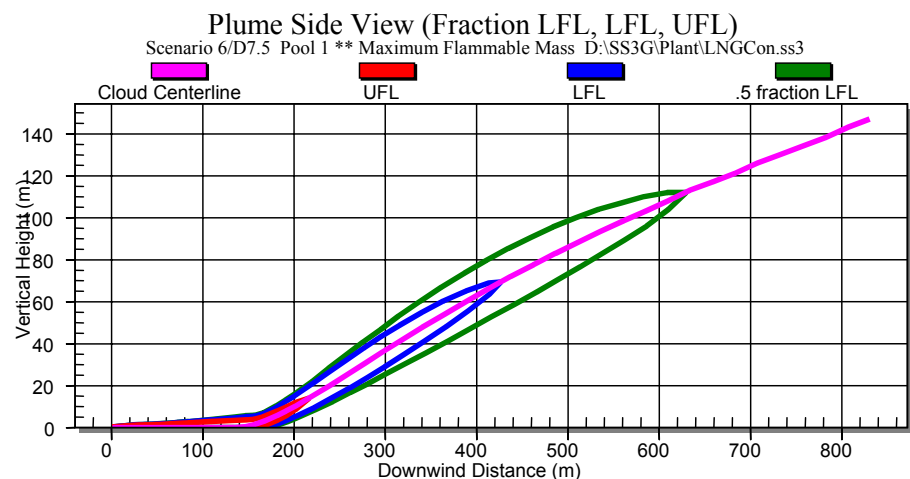
- Gulf of Mexico
- Taiwan
- India
- Italy

LNG Transport

- Middle East
- Indonesia
- Japan
- Korea

BakerRisk's multidisciplinary teams allow us to provide a full suite of LNG engineering services, including:

- Consequence and Risk Analysis
- Plant Layout
- Facility Siting Analysis
- Fire Protection
- Failure Analysis
- Release and Dispersion Analysis
- Rapid Phase Transfer (RPT) Support
- Structural Engineering
- Drainage Evaluation
- Incident Investigation & Litigation Support
- Metallurgical Evaluation
- Standards and Industry Practice Reviews



*SafeSite_{3G}TM Model
LNG on Water with 7.5 m/s Wind*