cmr Gexcon

GexCon US

LNG Hazard Analysis

CONSULTING

GEXCON SERVICES:

- Explosion Consulting
- Dust Explosion Consulting
- Large Loss Investigations
- Atmospheric Dispersion Consulting
- LNG Consulting
- Offshore Explosion Safety

GexCon has many years of experience performing hazard analyses for Liquefied Natural Gas (LNG) facilities worldwide. Our expertise includes consequence modeling for LNG vapor cloud dispersion, thermal radiation and vapor cloud explosion scenarios. Our computational fluid dynamics (CFD) package FLACS is an advanced tool capable of simulating LNG spills on water or land, into sumps and trenches, as well as pressurized, flashing jet releases. FLACS provides a computational environment where the evolution of the LNG source term (LNG pool or flashing jet) and of the resulting vapor cloud can be tracked simultaneously and where the effect of terrain and obstructions is incorporated, for a realistic simulation of the entire accident scenario.

LNG Pool Source Term

- 2D shallow-water model accounts for sump and trough geometry
- Source term coupled directly with vapor dispersion model

LNG Vapor Cloud Dispersion

- Only CFD model validated against the entire MEP database
- Efficient simulation of complex geometries (terrain, tanks, barriers)

High-Pressure LNG Releases

- Vapor cloud dispersion from flashing jets in complex geometries
- Realistic simulation of multidirectional sources (e.g. flange leaks)

Vapor Cloud Explosions

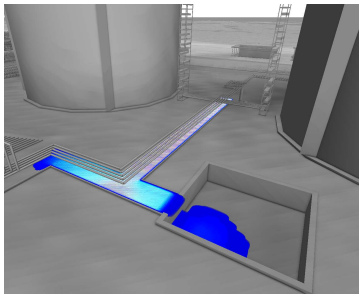
- FLACS is the #1 VCE modeling software in the world
- VCE analysis for hydrocarbon mixtures (E/P mix, other NGL mixtures)
- Overpressure analysis for LNG clouds in highly congested areas

Environmental Impact Studies

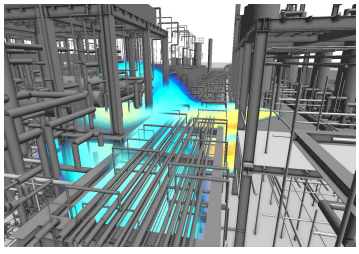
- Ambient Air Vaporizer-induced fog dispersion modeling
- Pollutant dispersion modeling

LNG Pool Fires

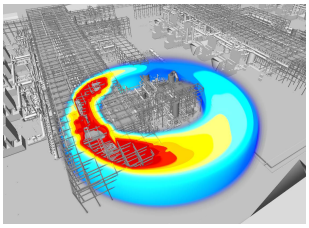
- Solid flame-based thermal radiation calculations



LNG POOL SPREADING



LNG VAPOR CLOUD DISPERSION



VAPOR CLOUD EXPLOSIONS

LNG POOL FIRES

HIGH PRESSURE RELEASES

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