AN ADVANCED COURSE
HAZARD ANALYSES FOR LNG FACILITIES
ONSHORE AND OFFSHORE
November 28-29, 2018
Texas A&M University, College Station, TX
Presented by Gex & Mary Kay O’Connor Process Safety Center

LEGISLATION
EXPLOSION
MODELING
RELEASE AND
DISPERSION
IGNITION
PREVENTIVE MEASURES
MITIGATION
PROBABILISTIC RISK ASSESSMENTS
ACCIDENTS
SELECTED CASES
OUTLOOK

WHO SHOULD ATTEND?
Safety engineers, managers, supervisors, and other personnel involved in the design, operation or modification of onshore and offshore LNG facilities (import, export, bunkering, transportation, etc.) as well as onshore processing facilities. Representatives of governmental or public bodies involved in development of safety regulations. Anyone who would like to develop an understanding of fire and explosion safety for LNG facilities.

MKOPSC
The Mary Kay O’Connor Process Safety Center’s mission is to promote safety as second nature in industry around the world with goals to prevent future accidents. The Center develops safer processes, equipment, procedures, and management strategies to minimize losses within the processing industry.

MKOPSC is located on the TAMU-College Station Campus.
PHONE: 979-845-3489
WEB: http://psc.tamu.edu/

PROGRAM OVERVIEW
Gexcon is presenting an advanced course on the analysis of explosion and other hazards for the Liquefied Natural Gas (LNG) facilities. The 2-day course will address multiple hazards associated with onshore and offshore LNG facilities including: LNG release and dispersion, explosion modeling, cryogenic spills, prevention and mitigation, probabilistic risk assessments, legislation, accidents and selected case studies. The course will prove helpful to experienced engineers, safety supervisors, and operating managers who are committed to safe workplaces.

CONTENT
- Fundamentals of LNG
- LNG Safety Regulations
- Gas Explosion Basics
- Cryogenic Hazards
- LNG Accidents: History
- LNG Accident Consequence Models
- Prevention and Mitigation
- Quantitative Risk Assessment Methodology
- Analyses – Case Studies
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AGENDA
Day 1
08:30 Registration and Coffee
09:00 Introduction
09:15 Fundamentals of LNG
Composition, Cryogenic properties, Hazards (cryogenic embrittlement, pool fire, flash fire, explosion)
10:00 Coffee Break
10:15 LNG Accidents: History
Cleveland explosion, Skids LNG liquefaction facility explosion, other minor incidents
10:45 Gas Explosion Basics
Combustion mechanisms, Fuelreactivity, Positive feedback mechanism, Importance of geometry, Explosiontests
11:15 Lunch
12:15 Departure to the TEEX / Brayton Fire School
13:15 Demonstration of LNG Spill and Pool Fire
14:30 LNG Accident Consequence Models
Potential leak sources, dispersion (liquid spills and flashing jet releases), pool fires, explosions, benefits of CFD
15:45 Cryogenic Spill Hazards and Cryogenic Spill Protection
Hazardous area classification, Ventilation, Choice of equipment, Maintenance and procedures, Inventory control, ESD, Layout modification, etc.
16:45 End of First Day

AGENDA
Day 2
08:30 Prevention and Mitigation
Hazardous area classification, Ventilation, Choice of equipment, Maintenance and procedures, Inventory control, ESD, Layout modification, etc.
09:00 LNG Safety Regulations
49 CFR 193 and current U.S. DOT Guidance; EN 1473
10:00 Coffee Break
10:15 Hazard Assessment Methodologies
Deterministic vs. Probabilistic methods
11:30 Lunch
12:30 Deterministic Analyses - Onshore Liquefaction
Case studies (export and truck-loading facilities)
13:15 Coffee Break
13:30 Probabilistic Analyses
QRA examples for onshore facilities and probabilistic ERA for Floating LNG
15:00 Questions and Answers
15:15 Closing / Certificates

The lecturers include LNG and gas explosion experts
Dr. Scott G. Davis and Claudio Marsegan

REGISTRATION
Register before November 19, 2018
Pre-registration is required. Register for the course online at: http://psc.tamu.edu/education/schedule-of-classes-registration

Via e-mail to:
sheera@tamu.edu
gexconus@gexcon.com

Early Registration fee $850.00
Registration after November 09, 2018: $990.00

CONTACT DETAILS
If accommodations are needed contact TAMU Hotel and Conference Center, 177 Joe Rount Blvd
College Station, 77840, TEXAS, Phone +1 888.654.4436.
The course will be held on the Texas A&M University campus, Jack E. Brown Building

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GexCon’s headquarters are in Bergen, Norway