GexCon is presenting an advanced course on the analysis of facilities. The 2-day course will address multiple hazards including LNG release and dispersion, explosion modeling, cryogenic spills, prevention and mitigation, probabilistic risk assessments, legislation, accidents, 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

**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/
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, Skikda LNG liquefaction facility
       explosion, other minor incidents

10:45  Gas Explosion Basics
       Combustion mechanisms, Fuel reactivity, Positive
       feedback mechanism, Importance of geometry, Explosion tests

12:00  Lunch

12:30  LNG Accident Consequence Models
       Potential leak sources, dispersion (liquid spills and
       flashing jet releases), pool fires, explosions, benefits
       of CFD

13:30  Prevention and Mitigation
       Hazardous area classification, Ventilation, Choice of
       equipment, Maintenance and procedures, Inventory
       control, ESD, Layout modification, etc.

15:00  Coffee Break

15:15  Cryogenic Spill Hazards and Cryogenic Spill
       Protection
       Hazardous area classification, Ventilation, Choice of
       equipment, Maintenance and procedures, Inventory
       control, ESD, Layout modification, etc.

16:00  End of the First Day

AGENDA
Day 2

08:00  Welcome and Coffee

08:45  Prepare to Depart for the TEEX/Brayton Fire School

09:30  Demonstration of LNG Spill and Pool fire

11:00  LNG Safety Regulations
       49 CFR 193 and current U.S. DOT Guidance;
       EN 1473

12:00  Lunch

12:30  Hazard Assessment Methodologies

13:30  Deterministic vs. Probabilistic methods

13:15  Deterministic Analyses - Onshore liquefaction

14:00  Probabilistic Analyses
       QRA examples for onshore facilities and
       probabilistic ERA for Floating LNG

15:30  Questions and Answers

15:45  Closing / Certificates