

# Technological Advancements for Confined Space Training: Gas Monitor Simulator

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# Objectives

- Discuss confined space training limitations
- Describe confined space props at IUOE
- Discuss multi-gas meter training limitations
- Review Lower Explosive Limit
- Explain Gas Monitor Simulator Technology
- Demonstrate Gas Monitor Simulator
- Discuss questions, comments, and answers

# Confined Space Training Limitations

- Need a confined space
  - Real
    - Ensure safe atmosphere
  - Simulated
    - Ensure safe atmosphere
- Communication with students
  - Specifically entrants
- Inability to create hazardous atmosphere for training realism

# Confined Space Props at IUOE – National HAZMAT Program Beaver, WV

- Culvert

- Manhole



# Confined Space Props at IUOE – National HAZMAT Program Beaver, WV

- Pit



- Tank



# Multi-gas Meter Training Limitations



# What Is a Multi-gas Meter?

- What gas does the gas meter measure?
- Oxygen
  - 19.5 % – 23.5 %
- % LEL (Methane)
- Toxic gases
  - H<sub>2</sub>S – Hydrogen Sulfide
  - CO – Carbon Monoxide
  - Others available



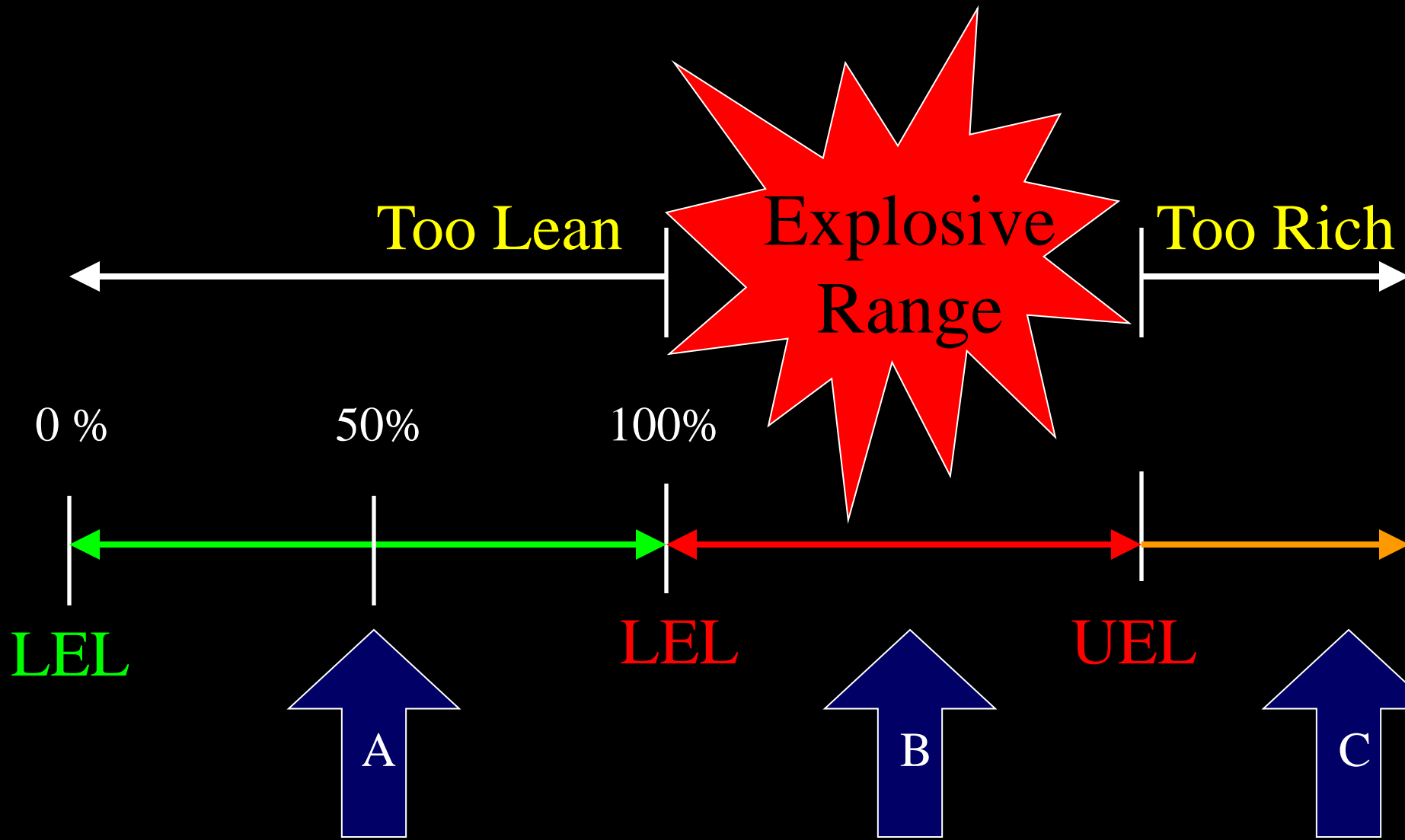
# Multi-gas Meter Training Limitations

- Cost
- Calibration
  - Span gas
- Alarm
  - Values
  - Talking during
  - Turn off





# What is LEL?



# LEL is Chemical Specific

- LEL
  - Acetone = 2.5% = 25,000 ppm
  - Benzene = 1.2% = 12,000 ppm
  - Octane = 1.0% = 10,000 ppm
  - Carbon Monoxide = 12.5% = 125,000 ppm

# Gas Monitor Simulator



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## How To Get Started

Download the app on your student and trainer devices.

Visit the iTunes App Store to download the Gas Monitor Simulator® to your student and trainer devices.

Connect all devices to the same wireless LAN. Make sure that both students and trainers are connected to the same wireless LAN (802.11g).

Start training – and learning. You're ready to begin. Trainers can find detailed information on how to use the software in the [Gas Monitor Simulator® User Guide](#) and [Technical FAQ](#).

## Gas Monitor Simulator® Real-time. Scenario-based. Life-saving.

The Gas Monitor Simulator® from LightsOn Safety Solutions is the first real-time tool that allows students to interpret gas readings accurately and realistically. Student responders see visual displays with real-time simulated hazardous gas readings and make tactical decisions based on those readings. Trainers are able to interact with students in the field, observe their reactions and observe that the students are interpreting readings accurately and effectively.

With this advanced yet simple solution, you can train anywhere you have access to a Wi-Fi network, using an iPhone, iPad or iPad touch.



### What The Trainer Can Do

- Create scenarios using more than 15 gases and PIDs
- Send readings and messages to individual students or an entire team simultaneously
- Run multiple trainer-to-student sessions within an extended training area
- Control all aspects of the training session including visual and audible alarm levels
- Generate and save reports from training events ([sample report](#))



### What The Student Can Do

- Receive simulated gas readings from trainer
- Receive visual and audible alarms when a simulated hazardous gas environment is encountered
- Receive and confirm text messages from the trainer

\\ Watch our interactive video of a real training scenario \\



# Gas Monitor Simulator

## Components you need:

- Wireless LAN
- Trainer device
  - iPod touch, iPhone, or iPad
  - Purchase authorization key from LightsOn Safety Solutions
- Student device
  - iPod touch, iPhone, or iPad
  - Download and install free Gas Monitor Simulator® app from the iTunes App Store

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# Gas Monitor Simulator

- Hands-on activity



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# Questions?



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