

Registration

Registering is easy:

- By email to registration@ircrisk.com
- Through the Internet: <http://www.ircrisk.com/semworkshop.asp>
See the [Click to Register](#) link
- Mail the completed form below or fax it to 713.467.9757
- Telephone 713.647.7929 and mention the bow-tie seminar

Be sure to provide persons' names, company name, and contact information (phone and email) for all registrants so we may confirm or advise of any changes.

More Information

Contact: Marlane Kayfes, Seminar Registrar
marlane.kayfes@ircrisk.com • t 713.647.7929

Introduction to Bow-tie Diagrams Seminar

Thursday, February 25, 2010

Please register the following individual(s) for the bow-tie seminar:

Name	_____
Company	_____
Job Title	_____
Telephone	_____ E-mail _____
Name	_____
Company	_____
Job Title	_____
Telephone	_____ E-mail _____
Name	_____
Company	_____
Job Title	_____
Telephone	_____ E-mail _____

Complete this form (make copies as needed)
then either fax it to 713.467.9757 or mail it to

IRC Risk and Safety, LLC.
10497 Town and Country Way, Suite 800 • Houston, TX 77024

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Introduction to Bow-tie Diagrams

Avoid 3 common mistakes in major accident event prevention & recovery

Practical answers from IRC in a **complimentary** three-hour breakfast seminar

Thursday • February 25, 2010

Registration 7:30 AM • Program 8 AM

at Four Points by Sheraton

10655 Katy Freeway (I-10) • Houston Texas

just inside the W. Sam Houston Tollway in Houston

Bow-tie Diagrams

Three common risk management mistakes are:

- Not learning from history to understand and manage potential accidents
- Not communicating the essence of potential accidents and risks, and
- Not checking that necessary control and recovery measures are in place and working

The beauty of bow-tie diagrams is they help you consolidate and summarize key information about accidents, including lessons learned. The end product is an effective, powerful graphic communication tool that is easily understood throughout the organization.

Where are Bow-tie Diagrams Used?

Bow-tie diagrams can be vital to an operations' HSE program, such as in:

- Documented historical perspective of accidents and incidents
- Hazard identification and assessment
- Integrated risk management task verification and documentation
- Complementary tool for incident investigation

Course Instructor

Yaneira Saud

Ms. Saud is a Certified Safety Professional (CSP) with 19 years' experience in the oil and gas industry. She holds a bachelor of science degree in civil engineering from Universidad de Oriente-Puerto la Cruz, Venezuela and a master of science degree in safety and health from the University of Southern California, Los Angeles. Her specialist training includes OSHA Process Safety Management and quantitative HSE studies and modeling. As a principal risk and safety consultant for IRC since 2008, she has conducted various risk assessments, such as bow-tie analysis, HAZOP, PHA, FRA, QRA, incident investigations, and ISO 14001 gap analysis, for such clients as Repsol, Pride, Fluor, and Hess.



Course Description

This course is an introduction to the concept of bow-tie analysis for industrial facilities. Materials will cover the background of bow-tie diagrams, when bow-ties are used, and how to create a basic bow-tie diagram.

Who Should Attend

- HSE managers and analysts
- Loss prevention and control managers and analysts
- Process safety managers and engineers

Benefits of Attending

Course participants will leave with a fundamental understanding of the use of bow-tie diagrams to document potential hazardous events, historical accidents and incidents, and recovery plans for future events to better anticipate and mitigate health, safety, and environmental damages.

Learning Objectives

By the end of this course, you will be able to:

- Explain what a bow-tie diagram is
- Identify the major parts of a bow-tie diagram
- Explain the benefits of bow-tie diagramming today
- Describe situations in which bow-tie diagrams can help HSE and compliance
- Create a simple bow-tie diagram
- List and compare tools used to create bow-tie diagrams

Technology

Participants need not bring any electronic tools. However, for those who wish to bring their laptops for personal use, such as note-taking, electrical outlets will be available. Internet access is not available in the meeting room.

Disclosure Statement

Both IRC Risk and Safety, LLC, (IRC) and Yaneira Saud are international consultants whose business is to provide bow-tie analysis and other risk and hazard analysis and consequence modeling services to industrial facilities. IRC also is a distributor of *BowTieXP* software. IRC reserves the right to change course instructors if circumstances warrant.