



PROCESS SAFETY COURSES FALL 2001

Course	Duration	Dates	Location	Objective	Cost
Best Practices in Process Safety Management	2 days	August 23-24	Princeton, NJ	Successful PSM Best Practices	\$ 895
Best Practices in Process Safety Management	2 days	September 17-18	San Francisco, CA	Successful PSM Best Practices	\$ 895
Process Hazard Analysis for Team Leader	3 days	September 19-21	San Francisco, CA	Develop PHA Team Leadership Skills	\$ 1295
Human Factors in Process Safety	2 days	September 24-25	San Francisco, CA	Implementing A Human Factors Program For PSM; Human Error Analysis Methods	\$ 895
Process Hazard Analysis for Team Leader	3 days	October 15-17	Singapore	Develop PHA Team Leadership Skills	\$ 1695
Best Practices in Process Safety Management	2 days	October 18-19	Singapore	Successful PSM Best Practices	\$1095
Process Hazard Analysis for Team Leader	3 days	October 15-17	Princeton, NJ	Develop PHA Team Leadership Skills	\$ 1295
Best Practices in Process Safety Management	2 days	October 18-19	Princeton, NJ	Successful PSM Best Practices	\$ 895
Mechanical Integrity Program Management	2 days	October 22-23	Houston, TX	Understand MI requirements, develop and implement MI programs	\$ 895
Human Factors in Process Safety	2 days	October 24-25	Houston, TX	Implementing A Human Factors Program For PSM; Human Error Analysis Methods	\$ 895
Process Hazard Analysis for Team Leader	3 days	October 22-24	Calgary, Alberta	Develop PHA Team Leadership Skills	\$ 1295
Best Practices in Process Safety Management	2 days	October 25-26	Calgary, Alberta	Successful PSM Best Practices	\$ 895
Mechanical Integrity Program Management	2 days	November 5-6	Princeton, NJ	Understand MI requirements, develop and implement MI programs	\$ 895
Human Factors in Process Safety	2 days	November 7-8	Princeton, NJ	Implementing A Human Factors Program For PSM; Human Error Analysis Methods	\$ 895
Process Hazard Analysis for Team Leader	3 days	November 12-14	Houston, TX	Develop PHA Team Leadership Skills	\$ 1295
Best Practices in Process Safety Management	2 days	November 15-16	Houston, TX	Successful PSM Best Practices	\$ 895



PROCESS HAZARD ANALYSIS FOR TEAM LEADERS

COURSE BENEFITS

- Acquire the knowledge necessary to prepare for, lead, generate reports for, and follow-up on HAZOP studies.
- Learn key aspects of PHA necessary for compliance.
- Build on your team leadership skills enabling you to be qualified to lead HAZOP teams.
- Learn the use of the most advanced Process Hazard Analysis software (PHA-Pro™) specially developed for documenting HAZOP studies.
- Discover means to achieve the optimum use of team time.
- Develop revalidation methods that your company can use to improve PHA quality.
- AcuTech certification of team leaders to show evidence of competency to regulators.

BEST PRACTICES IN PROCESS SAFETY MANAGEMENT

COURSE BENEFITS

- Acquire the knowledge to plan and develop PSM programs that meet the requirements of regulators.
- Learn latest methods for updating and improving existing programs to achieve real gains in performance.
- Learn the principles behind of each of the 14 elements of process safety management.
- Learn to implement AcuTech's 5-step process to implement and maintain an effective program in your company.
- Attend workshops on practical examples on how to develop specific programs and procedures.
- Learn how to manage and audit process safety programs and about best practices AcuTech has observed.
- See demonstrations of software available to assist in the implementation of PSM, such as management of change, process hazards analysis, auditing, and management follow-up of action items.

HUMAN FACTORS IN PROCESS SAFETY

COURSE BENEFITS

- Gain knowledge of human error and human factors principles and how they relate to PSM.
- Learn to reduce incidents and improve human performance by reducing human error-likely work situations through design, improved work instructions, training, and the recognition of human factors hazards.
- Learn about new regulations requiring human factors programs for process safety.
- Learn AcuTech's Human Safety Performance Model for implementing and managing human factors for PSM.
- Gain the ability to plan and conduct various human error analysis techniques recognized by the AIChE CCPS.
- Practice performing human factors and procedures analyses in realistic workshops.

MECHANICAL INTEGRITY PROGRAM MANAGEMENT

COURSE BENEFITS

- Obtain a clear definition of what is required in a MI program
- Receive a current update on OSHA's clarifications and interpretations of the MI element.
- See examples of industry best practices in MI programs.
- Learn about how to develop and implement the policies, practices, and procedures necessary in an effective MI program.
- Learn about information on several "advanced" topics related closely to PSM: RCM, RBI, and the impact of ISA S84.01 (Safety Instrumented Systems guidelines).



HAZOP FOR TEAM LEADERS - (3 DAYS) -- COURSE DESCRIPTION

This class focuses on use of the HAZOP (Hazard and Operability) technique, and training of participants to lead, document and manage (HAZOP) studies and subsequent recommendations. It provides participants with technical and facilitating skills required to successfully plan and execute a HAZOP study. Revalidation of HAZOP studies is also covered. Participants will also gain hands-on experience through interactive workshops using HAZOP. Concern over safety to the public and the environment has led companies to constantly seek more effective methods of checking the design of new plants, and the design and operation of existing plants. Out of a number of hazard identification techniques in use, Hazard & Operability Studies (HAZOP) is widely recognized as the most comprehensive technique. The technique is recognized as a most effective method of checking processes. It is also found to provide significant improvements in operability by optimizing operator interactions with the process and reducing the risk of human error.

The HAZOP Team Leader Training is intended to educate and train process industry personnel on the proper approach to conducting HAZOPs as well as provide guidance and tools to aid in leading HAZOP studies. This 3-day course will provide you with the technical and leadership skills necessary to successfully plan and execute a HAZOP and is ideal for companies interested in developing in-house HAZOP leadership skills.

WHO SHOULD ATTEND

The target audience includes HAZOP team leaders; team members; environmental, health, and safety professionals; supervisors; engineers and others expected to lead or participate in HAZOP studies. No prior HAZOP experience is necessary. This offering is ideal for companies interested in developing in-house HAZOP leadership skills. HAZOP is highly relevant for companies in:

- Oil & Gas Exploration/Production
- Oil Refining
- Petrochemicals
- Chemicals
- Power Generation.
- Food Processing
- Manufacturing
- Biotech
- Semiconductor

COURSE INCLUDES:

- Lectures, manuals, instruction in use of software PHA-Pro™, AcuTech certificate of completion, lunches, and coffee breaks.

ALUMNI REMARKS

“Excellent course in HAZOP.”

**Cut A. Zaini,
Mobil Oil Indonesia Inc.**

“Clear, Insightful, Experienced.”

**Luisito V. Poblete,
Total Petroleum Corp.**

“Presentation was excellent.”

**Sven Thomas,
Siemens Power, Inc.**

“Excellent facilities and interaction with the attendees.”

**Ignacito P. Panzo,
First Gas Power Corp.**

“Good interaction with participants, excellent examples of past experience.”

**Muhd Hasnul Ariffin,
TNB Generation Sdn Bhd**

“Very good course.”

**Bernard van Amelsvort,
Unocal**

“Very knowledgeable on the subject matter.”

**Roberto C. Rubina,
First Gas Power Corp.**



PSM BEST PRACTICES - (2 DAYS) - COURSE DESCRIPTION

This 2-day course provides a thorough overview of Process Safety Management principles. Participants would be instructed in Process Safety elements regulated by U.S. OSHA and EPA, as well as those programs from leading trade associations such as AIChE and API. Among the topics covered include Mechanical Integrity, Operating Procedures, Process Hazard Analysis, and Management of Change.

Participants will develop the knowledge to develop and implement such programs at their own facilities. Attendance would benefit environmental and safety professionals, operations and maintenance managers/supervisors, and RMP coordinators.

WHO SHOULD ATTEND:

Engineers responsible for process design, Process Safety Management Coordinators, Process Hazards Analysis team members, and managers interested in a detailed understanding of process safety would find this course invaluable. Safety in Process Design is strongly recommended for companies in:

- Oil and Gas Exploration/Production
- Oil Refining
- Petrochemicals
- Chemicals
- Food Processing
- Manufacturing
- Power Generation
- Biotech
- Semiconductor



COURSE INCLUDES:

- Lectures, manuals, instruction in use software tools, certificate of completion, lunches, and coffee breaks.

ACUTECH'S PAST EXPERIENCE:

AcuTech has conducted a series of highly successful training seminars on Process Safety Management, Hazard Analysis, and Quantitative Risk Assessment in numerous locations in the U.S., Canada, and Asia for leading petroleum, chemical, petrochemical, energy, and manufacturing company representatives. Attendees included safety, health, and operations personnel from companies such as ExxonMobil, Tosco, ARCO, BPAmoco, McDonnell-Douglas, Boeing, Kraft, Tyson, Unocal, Shell, Siemens, Bayer, Cargill, and Caltex. These practical seminars are also available to be presented at a company's facilities, thereby enhancing the training with specific training and mentoring of staff. AcuTech has also been conducting major risk assessment studies and customized training throughout the world. The experienced gained in assisting hundreds of US companies in implementing successful process safety and risk management programs in the US is a major advantage to businesses interested in meeting new, similar requirements.

For a complete listing of all of AcuTech Training Institutes open enrollment courses please visit www.acutech-consulting.com/training or visit AcuTech's process safety management portal at www.acusafe.com.

AcuTech was recently selected by the API, AIChE/CCPS, NPRA, SOCMA, and ACC to host a PSM Best Practices Seminar August 28-29, 2001, in New Orleans. Contact AcuTech for further information inquire@acutech-consulting.com.



HUMAN FACTORS FOR PROCESS SAFETY – (2 DAYS) – COURSE DESCRIPTION

It is well understood that the most of the progress in process safety management has been made in the establishment of management systems and in process equipment safety improvements. The next advance in safety performance will require a focus on the operations; including the human factors of the plant management, design, procedures, training, and related issues. While the field of human error and reliability analysis is more mature in the defense, aerospace, and nuclear industries, it is rarely used in any formal way in the process industries. AcuTech believes this is because the methods available are not well known by most process safety practitioners and they are impractical to apply in many cases.

COURSE OBJECTIVES:

This course provides knowledge necessary to develop and implement a practical and comprehensive program for reducing risk related to human factors in process safety. The course will include methods for analyzing human factors and, in particular, errors in design or operation. Methods and software to systematically analyze human error and human reliability will be reviewed. The intent is to overlay an existing PSM system with a program that emphasizes human factors considerations. This course is intended to develop your knowledge on the principles of human error, human reliability, and human factors in design. Also included is advice to practice methods such as human factors surveys, HAZOP of procedures, and Task Analysis techniques.

WHO SHOULD ATTEND:

PSM coordinators, maintenance supervisors, safety managers and professionals, production managers, maintenance engineers, process and plant engineers, and others involved in Process Safety who want to implement a program for human factors. The class is highly relevant for companies in:

- Oil & Gas Exploration/Production
- Oil Refining
- Petrochemicals
- Chemicals
- Power Generation.
- Food Processing
- Manufacturing
- Biotech
- Semiconductor



LEARNING OUTCOMES:

- Gain knowledge of human error and human factors principles and how they relate to PSM.
- Learn to reduce incidents and improve human performance by reducing human error-likely work situations through design, improved work instructions, training, and the recognition of human factors hazards.
- Learn about new regulations requiring human factors programs for process safety.
- Learn AcuTech's Human Safety Performance Model for implementing and managing human factors for PSM.
- Gain the ability to plan and conduct various human error analysis techniques recognized by the AIChE CCPS.
- Practice performing human factors and procedures analyses in realistic workshops.



MECHANICAL INTEGRITY PROGRAM MANAGEMENT – (2 DAYS) – COURSE DESCRIPTION

One of the cornerstones of a sound PSM program is a sound Mechanical Integrity Program. Mechanical integrity is a "condition" or state of a process or equipment which indicates that it is capable of full operations and is operating within the manufacturers' operating tolerances. Specifically, the Mechanical Integrity Program is aimed at ensuring that critical process equipment and components are: designed, fabricated, installed, inspected, tested, maintained, repaired, and decommissioned in a manner which preserves the originally intended integrity of the equipment, and by personnel who are properly trained and qualified to perform the necessary activities. Mechanical integrity activities span the entire life cycle of a covered process.

COURSE OBJECTIVES:

To provide definition and interpretation of the Mechanical Integrity (MI) element of the PSM Standard, and to provide guidance on formulating and implementing a program to satisfy these requirements. Another objective is to introduce the concepts of reliability centered maintenance (RCM) and risk-based inspections (RBI) and provide some guidance on how to employ these techniques in designing a MI program.

WHO SHOULD ATTEND:

PSM coordinators, Maintenance Managers, Engineering Managers, Maintenance Supervisors, safety managers and professionals, and others involved in Process Safety who have responsibility for an MI-related task at the PSM-covered facility. The class is highly relevant for companies in:

- Oil & Gas Exploration/Production
- Oil Refining
- Petrochemicals
- Chemicals
- Power Generation.
- Food Processing
- Manufacturing
- Biotech
- Semiconductor

LEARNING OUTCOMES:

- Understand clearly what is required in a MI program
- Receive a current update on OSHA's clarifications and interpretations of the MI element.
- Understand how to develop and implement the policies, practices, and procedures necessary for an effective MI program.
- Learn about examples of industry best practices in MI programs.
- Receive information on several "advanced" topics related closely to PSM: RCM, RBI, and the impact of ISA S84.01 (Safety Instrumented Systems guidelines).

COURSE INCLUDES:

- Lectures, manuals, certificate of completion, lunches, and coffee breaks.



TRAIN WITH LEADING SAFETY EXPERTS!

	<p>MR. DAVID MOORE, President and CEO of AcuTech Consulting, has over 20 years of specialized experience in all elements of process risk management. He has led process hazard analyses of industrial facilities worldwide, including oil refineries, chemical plants, pipelines, and manufacturing plants. His projects include evaluation using qualitative hazard analysis techniques such as HAZOP, What-if/Checklist, FMEA, and other techniques. He has also implemented human factors programs, conducted quantitative risk assessments such as Fault Tree and Event Tree Analyses, fire and explosion modeling, and flammable and toxic vapor dispersion modeling, and has taught process safety courses for over 15 years to many of the world's largest corporations.</p>
	<p>MR. WILLIAM WHEELER: Mr. Wheeler has over 20 years experience in professional engineering, design, construction, operation and risk analysis in various process industries, specializing in the petroleum production and refining sectors. He provides hazard and risk analysis services using HAZOP, What-If, FMEA and other hazard and risk assessment techniques. Having a background in process safety with Mobil Oil has permitted Mr. Wheeler to provide unique insight during the many safety and risk analysis projects in which he has participated. Mr. Wheeler has led hundreds of PHA studies for major refineries, chemical manufacturing plants, pharmaceutical plants, and offshore oil production facilities.</p>
	<p>MR. MICHAEL HAZZAN: Michael Hazzan has over 25 total years experience in risk and safety analysis, engineering, and plant operations. He has served as a Project Manager/Lead Engineer for a number of safety and risk studies, and audits. This work has comprised process safety related compliance audits, HAZOP studies, dispersion/consequence calculations, mechanical integrity management systems, probabilistic risk analyses, and fault tree analysis. Mr. Hazzan has also authored and extensively taught PSM training courses to companies around the world.</p>
	<p>MR. JAMES CIBELLI: Mr. Cibelli has over 17 years of experience in process risk management. Mr. Cibelli has provided safety and operations guidance to onshore and offshore oil production facilities in the U.S. States and Canada as a previous employee of Exxon. Mr. Cibelli has been involved with the successful startup of two offshore production platforms. Mr. Cibelli has direct experience in developing and implementing PSM and Risk Management (RMP) programs for various industries. Mr. Cibelli has extensive experience leading PHA studies using the HAZOP and What-If/Checklist analysis techniques. Mr. Cibelli holds a BSME and BSPE.</p>
	<p>MR. JOHN LEE: Mr. Lee's career spans over 30 years, with the great majority of it serving at a number of Exxon facilities in the U.S. His professional experience includes PSM coordinator over a ten-year period at a refinery in California. In addition to the significant project experience, Mr. Lee has had an influential role in regulatory development activities and is highly regarded in the process safety field. His activities include Chairing the American Petroleum Institute's (API) special group for RMP guidance document development (API 760). Mr. Lee holds a B.Sc in Civil Engineering from the University of Michigan and is Chair for the Safe Operations Committee and Western States Petroleum Association PSM Group.</p>



REGISTRATION FORM

Name	
Company	
Title	
Address	
Phone	
Fax	
E-mail	

ö	Cost	Please sign me up for the following course(s):
	\$ 895	PSM Best Practices, September 17 – 19, San Francisco, CA
	\$ 1,295	PHA Team Leader, September 20 – 21, San Francisco, CA
	\$ 895	Human Factors in Process Safety, September 24 – 25, San Francisco, CA
	\$1,695	PHA Team Leader, October 15 – 17, Singapore
	\$1,095	PSM Best Practices, October 18 – 19, Singapore
	\$1,295	PHA Team Leader, October 15 – 17, Princeton, NJ
	\$ 895	PSM Best Practices, October 18 – 19, Princeton, NJ
	\$ 895	Mechanical Integrity Program Management, October 22 – 23, Houston, TX
	\$ 895	Human Factors in Process Safety, October 24 – 25, Houston TX
	\$1,295	PHA Team Leader, October 22 – 24, Calgary, Alberta
	\$ 895	PSM Best Practices, October 25 – 26, Calgary, Alberta
	\$ 895	Mechanical Integrity Program Management, November 5 –6, Princeton, NJ
	\$ 895	Human Factors in Process Safety, November 7 – 8, Princeton, NJ
	\$1,295	PHA Team Leader, November 12 – 14, Houston, TX
	\$ 895	PSM Best Practices, November 15 – 16, Houston, TX

	Payment : Cash or Credit Card payments accepted, or register online:
	<input type="checkbox"/> I enclose a check payable to AcuTech Training Institute c/o Chemetica, Inc.
Credit Card:	<input type="checkbox"/> Visa <input type="checkbox"/> MasterCard Amount: \$USD _____
Card Holder Name:	
Card No.:	
Expiry Date:	
Signature:	

Please fax this form to: 415-923-9274, or e-mail this form to: ati@acutech-consulting.com



SPECIALS !

3rd subsequent attendee from the same company is entitled to a 10% discount

or

Register for any two courses and receive a 10% discount

or

If you register more than four attendees for the same class, the fifth attendee from the same company is FREE !!

CUSTOMIZED COURSES

AcuTech also provides customized training for your facility. Any course offering can be presented onsite. Specific workshop examples related to your facility can also be incorporated. We have conducted customized training for numerous clients and can provide you references. Benefits to onsite courses include:

- Custom Focus for Enhanced Value. Courses are designed to address unique requirements of your personnel, utilizing their time efficiently and your money effectively
- Limit travel expenses. By bringing our experts to you, you realize significant savings in travel expenses and time lost.
- Minimal impact to work schedules. Your personnel are trained at your facility, minimizing their time offsite and the possible need to bring in additional shift coverage

