Course Information Sheet	
Course Title	**Certified PHA-HAZOP Leader Course**
Instructor	BV approved instructor
Course Duration	5 Days
Course Objective	The main objective of PHA-HAZOP Leadership training program is to create a global network of PHA-HAZOP Leaders and specialists with a shared understanding of PHA and HAZOP concepts in accordance with IEC 61882. By the end of this training course, participants will be capable: • To develop a grasp of Process Hazards Analysis (PHA) ideas and their function in managing health, safety, and the environment. • To give a fundamental understanding of all the MAH identification methods and the appropriate times to utilize them. • To help people comprehend the duties associated with PHA leadership. • To teach fundamental abilities and practice using the What-If and HAZOP procedures.
Who should Attend	For people working in management, engineering (design, process, chemical, facilities, instrumentation and controls), operations, and process safety, this course offers a review of the major PHA and HAZOP Study issues and elements. The practical methodology taught in this course will be helpful to engineers, safety/environment staff, plant operators, area managers, and maintenance staff.

Outline(should be day wise)	**Day 1:**
	
	▪ Risk Concepts
	  ○ Hazardous Event
	  ○ What is Risk?
	  ○ Typical Incidents that Concern Us
	  ○ Industrial Incidents of Major Significance
	▪ Regulatory Developments
	▪ Risk Terminology
	▪ Process Hazards and Risk Management Alternatives
	  ○ Hazards that Concern Us
	  ○ What Increases the Potential for Industrial Facilities to Become More Hazardous?
	  ○ What Makes Transportation of Dangerous Goods More Hazardous?
	  ○ How are Process Risks Analyzed?
	  ○ Principle and Practice of Risk Analysis via Quantitative Risk Assessment
	▪ Introduction / Overview of PHA
	▪ History of PHA
	▪ PHA tools for Identification of hazards
	▪ Choosing a PHA Methodology

- Group Discussion / Exercises

Day 2 :

- Basics of HAZOP
  - What did we do before HAZOP Came Along?
  - How Do We Know If a Plant is Safe?
  - HAZOP Methodology
  - Methodology of Generating Deviations
  - What Type of HAZOP Should You Use?
  - Steps in the HAZOP Process
  - Variations in HAZOP Types
  - Preparation of HAZOP Reports
- Pitfalls with HAZOP, Optimization of PHAs & Sizing of Nodes
  - Pitfalls with HAZOP
  - Optimization: When to Do What
  - Choosing & Sizing of Nodes for HAZOP
- Group HAZOP Exercises

Day 3 :

- Preliminary Hazard Analysis
  - How and When to use PrHA
  - PrHA Procedure
  - Time Requirements
  - Advantages of PrHA
  - Limitations of PrHA
- What If/Checklist
  - When and How to Use What If Methodology
  - Steps in the What If Procedure
  - Time Requirements
  - Advantages of What If Analysis
  - Limitations of What If Analysis
- Checklist
  - When and How to Use Checklist Methodology
  - Steps in the Checklist Procedure
  - Time Requirements
  - Advantages of Checklist Analysis
  - Limitations of Checklist Analysis
- Failure Mode and Effects Analysis (FMEA)
  - What is FMEA?
  - When and How to Use FMEA
  - Steps in an FMEA Study
  - Advantages of FMEA
  - Limitations of FMEA
- Group Discussion / Exercises

	Day 4: ▪ PHA-HAZOP Team Leadership o Opposition of PHAs o Driving Forces Behind PSM o Role of PHA-HAZOP Leader (Facilitator) o PHA-HAZOP Team o Choice of PHA-HAZOP & Factors in Determining Choice o Manage Time Spent on PHAs - HAZOPs o Preparation before PHA-HAZOP Sessions o PHA Leadership Responsibility o Anaylze Your Performance as a PHA-HAZOP Leader o Steps for Performing PHA-HAZOP o Main Goal of the PHA: Recommendations & Remedial Actions o Auditing of PHAs ▪ Group Discussion / Exercises **Day 5 :** ▪ PHA-Pro Software Demonstration ▪ Final Exam
Course Related Standards	NA
Pre-Requisites	I. Experience in process operation II. Ability to read and understand engineering drawings III. Basic computer skills IV. Ability to communicate in English (both oral and written) V. Effective writing skills VI. Strong interpersonal and leadership skills
Training Methodology	o Group Exercises (2 or more) o Project work o Role Play o Simulation (if any) o Case Studies o Individual Exercises
Course Assessment	• Daily Group Exercises • Final Exam
Deliverables:	Bureau Veritas certified Certificates will be issued to all the attendees.