

## ABOUT US

PNA is an independent consultancy focused on providing safety, risk and reliability services and solutions covering the various phases of a project including feasibility and concept development, design, construction, installation, hook-up and commissioning, operation and decommissioning.

## OUR SERVICES COVER THE FOLLOWING AREAS :

### Hazardous Area Classification

Process Hazard Analysis

Asset Selection & Utilisation

Formal Safety Assessment

Quantitative Risk Assessment

Regulatory Compliance

Consequence Analysis

Hazard Identification

Business Continuity Plan

Health Risk Assessment

Process Safety Management

## INTRODUCTION

Process Hazard Analysis (PHA) is a term referencing a variety of techniques in identifying hazards and hazard scenarios. The PHA is a proactive attempt by chemical process operations to understand what can go wrong, how likely it is to go wrong and what steps are necessary to prevent or mitigate undesired consequences.

Without a proactive approach, without "searching out" process hazards, we are condemned to await each consequence of human error, and equipment or system failure. Prevention is our best defense, but we cannot defend against that which we do not recognize.

## SERVICES

We can provide a full range of PHA services, using a variety of techniques :

- Hazard and Operability Studies (HAZOP)
- What-if
- Checklists
- Failure Modes and Effects Analysis (FMEA)
- Fault Tree Analysis (FTA)
- Event Tree Analysis (ETA)

The following are just a few of the many ways we can assist you in developing and managing a successful PHA for your company.

### PHA Preparation (compile information required to conduct PHA)

To properly conduct a PHA a great deal of information is required about the materials handled, the chemical process and conditions, the control methods employed, and the equipment and systems used. This information resides in the design manuals, operating procedures and equipment files of the process of interest.

### PHA Facilitation and Documentation (Lead and Scribe PHA)

Our PHA Team Leaders can play two separate, but equally important roles as a technical facilitator and as a process safety expert. A PHA is always a team effort, and the success of the study depends on the quality of the team. Your PHA Scribe team is used to relay operational experience about the facility being evaluated, and to provide technical opinions about the design conditions and constraints of the equipment. It is therefore important that a balanced team structure be achieved.

A lot of time and effort goes into a PHA study, and the information gathered during the study can be retained as useful reference information and our experienced PHA Leaders will document the discussions during a PHA meeting.

### PHA Revalidation (ensure PHA addresses current operating conditions)

- PHA revalidation
- Integrating human factors into PHA
- Consequence analysis, including atmospheric dispersion
- Quantitative Risk Assessment (QRA)
- Safety Integrity Level (SIL) or layer of protection analysis
- Human Reliability Analysis (HRA)

## CONTACT DETAILS

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