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HAZOP Training

15th February, 2018
Aerocity, New Delhi.
by Umesh Goel

For the professionals from the Oil & Gas, Petroleum Refining, Petrochemicals, Chemicals, Pharmaceuticals and the Engineering industry

"Hunting for Hazards"

we shall leave no stone unturned, no nook or corner unchecked, till we identify all hazards that threaten our installation or personnel or public

Hone your HAZOP skills

INTRODUCTION

The need for process safety expertise is ever increasing and a growing challenge in the hydrocarbon, petrochemicals and chemicals industry across the globe. Especially in India, the energy demands over the past decade have seen an exponential growth in the hydrocarbon and allied sector. To meet the growing needs of the Indian engineers and professionals in this domain, USP-Energy Div. is organizing a 'public' training course in the domain of Process Safety focused on ***Hazard Identification through Hazard and Operability*** (HAZOP) Study.

Knowledge and expertise in hazards identification is essential in reducing risk to "As Low As Reasonably Practical" (ALARP) level, for existing installations or new projects . A good and thorough Hazop study is vital for effective risk identification and mitigation. Organizations can ensure good Hazop quality by developing Hazop skills of their professionals.

HAZOP training is provided by an expert trainer with long years of experience, utilizing a practical and interactive approach. The session includes several work-shops and mock Hazops, thus giving the candidates invaluable hands-on-experience.

TRAINING DATES : Thursday, 15th February, 2018 - 1 day. (09:30 am – 05:00pm)

VENUE : Aero City, Delhi International Airport, New Delhi – 110037, India

TRAINER : Umesh Goel MSc CEng MIChemE, 25 years experience as a seasoned professional in the domains of Process Engineering, Process Design and Process Safety with national and international exposure on prestigious projects for the Oil and Gas, Petrochemicals, Petroleum Refining and Chemical industries.

WHO SHOULD ATTEND?

Engineers, managers and professionals in the process industry, especially those from operations, process design and engineering, technical services, safety and loss prevention, HSE deptt, , maintenance, projects, commissioning in-charge.

OBJECTIVES

- To effectively prepare and conduct Hazop sessions (review team, methodology, documentation and implementation).
- To participate proactively in the Hazop sessions, applying methodologies in a conscientious and rigorous manner while encouraging out-of the box thinking.
- To carry out a qualitative risk assessment, identify high severity scenarios, check the adequacy of existing safeguards and give recommendations for additional safeguards.

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HAZARD AND OPERABILITY STUDY (HAZOP)
TRAINING SESSION

Course Programme

	Estimated Duration	By
Overview of Process Hazard Reviews (PHRs) Hazid Hazop What-if Check-list Bow-tie	09:30 – 10:15 am (~30 min)	**HAZOP Trainer** Umesh Goel
Pause-1: Tea Break	15 min	
Focus on HAZOP Introduction Basics Limitations Methodology	10:30 – 11:30AM (~60 min)	**HAZOP Trainer** Umesh Goel
HAZOP Work-shop-1 Node marking of P&IDs by Participants Critical review of Node Marked P&IDs by the Trainer	(~90 min) 11:30 – 12:30pm 12:30 – 01:00PM	Two groups, each group of 7+1 lead **Hazop participants** **Hazop Trainer**
Pause-2: Lunch	01:00 PM – 01:45PM	
HAZOP Recording - Demonstration of Recording Software PHAWorks® Copyright © 1996-2013 PrimaTech Inc	1:45 PM – 02:15 PM (~30 min)	**HAZOP Asst Trainer** Pradeep Rawal
HAZOP Workshop-2 Conducting Mock Hazop of Node marked P&IDs (work-shop-1) Critical review of mock Hazop	02:15 PM – 03:30 (~75 min)	Two groups, each group of 7+1 lead **Hazop participants** **Hazop Trainer**
Pause-3 : Tea Break	15 minutes	
Overview of Hazop (5-year) Ravalidation	03:45 – 04:00 PM (~15 min)	**HAZOP Trainer** Umesh Goel
Introduction to Risk Assessment Concept of Residual Risk (SLR) Severity, Likelihood, Risk	04:45 – 04:15 PM (~15 min)	**HAZOP Trainer** Umesh Goel
Workshop-3: Revisit of Work shop-2 to introduce criticality Matrix and risk reduction/mitigation	04:15 Pm – 05:00PM (~45 min)	**HAZOP Trainer** **+** **HAZOP Participants**
Q&A ***END OF THE TRAINING SESSION – 05:15 PM*** (Refer course contents for more details)		

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HAZARD AND OPERABILITY STUDY (HAZOP)

TRAINING SESSION

Course Contents

COURSE CONTENT	OBJECTIVES
Introduction to Process Hazard Reviews (PHRs) Hazid, Hazop, What-if, Check-list, Bow-Tie, LOPA-SIL	Participants will get an overview of the various techniques to identify the Hazards and choose the best suited technique for their application
Pause-1: Tea-Break	
Focus on HAZOP **Introduction** Why?, When?, How?, Documentation, ToR, Classification of Hazop action items, Reporting, Close-out, Roles and responsibilities, Approvals **Methodology** Nodes, Deviations, Cause, Consequences, Severity / Likelihood Safeguards, Recommendation / Action Item, Action by, Deadline for Completion of Action Item	Participants will be given comprehensive knowledge of the Hazop study along with its preparation, methodology, reporting and close-out
Work-shop-1 Node marking of P&IDs by Participants Critical Review of Node Marked P&IDs by the Trainer	Participants will participate in the preparation of a simulated Hazop study as members of a Hazop team and do node mark-up of "Hazop Master P&IDs".
Pause-2: Lunch	
HAZOP Recording – Demonstration of Recording Software PHAWorks® Copyright © 1996-2013 PrimaTech Inc	Participants will learn about the recording of Hazop proceedings
Workshop-2 Conducting of Mock Hazop of Node marked P&IDs Critical Review of mock Hazop by the Trainer	Participants will participate in a simulated Hazop study as members of a Hazop team
Pause-3 : Tea-Break	
Hazop Revalidation Categorization (into revamp, retrofit, update), Documented Changes, MOC screening, P&ID comparison, Quality and completeness check	Participants will get an overviewof the requirements to conduct and revalidate Hazops at specific intervals
Introduction to Risk Assessment Concept of Residual Risk (SLR) - Criticality Matrix Severity S Sr Likelihood L Lr Risk R Rr	Participants will learn about the aspects related to risk assessment and risk mitigation
Workshop-3: Revisit of Work shop-2 to introduce criticality Matrix and risk reduction/mitigation	Participants will participate in a simulated Hazop as members of a Hazop team and extend the scope of a classical Hazop study to risk assessment

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CURRICULUM VITAE

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Civil status

NAME: -Umesh Goel

Date of Birth: -14 December 1968

First name: -Umesh

Nationality: - Indian

Present position

Director/Chief Engineer – Process/Process Safety and Loss Prevention

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Education

M.Sc. Applied Chemical Engineering, IFP (Institut Français du Pétrole), Paris, France, 2000

B.E. Chemical Engineering, Shivaji University, India, 1991

Professional Experience

Independent Hazop Chairman over a span of last 10 years for several prestigious Hazop studies for customers such as :
Indian Oil Corp Ltd- BS-VI project, Jubilant Life Sciences Ltd. – Integrated HAZOP and LOPA study, HPCL-Mittal Pipelines Ltd – Crude Oil Terminal and Mundra-Bathinda cross-country pipeline, KNPC, Kuwait Shuaiba refinery, GAIL Pata, Reliance J3 ROG Cracker Demo Furnace, and more….

Process Engineer with several leading engineering and process licensing companies over a span of 26 years, such as: Axens Indian office, Air Liquide (France), Lurgi India, Bechtel (London office) etc with experience in process design and systems engineering, commissioning, catalyst loading, process safety and loss prevention.

In my role as Director, I have management responsibilities related to Company matters, such as: Statutory compliances, employee engagement, auditing and taxation. I have successfully managed our foreign partnerships with companies such as Bryan Research and Engineering, USA for the past 8 years.

Languages

English : Fluent
Hindi : Fluent
French : Professional

Membership of Professional Associations

Chartered Engineer, Member, IChemE, UK
Member of IIChE, Delhi Chapter

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