Certified Courses

Professional Certificate

Pre-Startup Audit Evaluating, Determining and Implementing Effective Risk Control Measures

INTRODUCTION

- Start-up operations are riskier than normal, routine operations. The process needs to be planned and managed. The Pre-Start-Up Audit (PSUA) or Pre-start-up review (PSUR) is a part of the planning process for projects during which the safety and functionality of the process itself is checked to ensure that all systems should function as intended and that potential hazards have been considered and can be dealt with. This process is used in projects related to construction, reconditioning or repair of equipment and facilities designed to process hazardous substances.
- The Pre-Start-Up Audit (PSUA) process is commonly found in oil & gas, and petrochemical projects and comprises a combined safety and operability audit to ensure that hydrocarbons or other hazardous materials can be safely introduced into a newly constructed (or reconstructed) plant, asset or facility for the first time.
- Furthermore, Pre-Start-Up Audit is used to assure the owner or operator of that plant, asset or facility that it is capable of starting, controlling and stopping it safely, efficiently and without harm to people, the plant itself or to the environment.

In this training course, delegates will advance their knowledge and skills by:

- Developing an understanding of the risks associated with start-up operations
- Considering the control measures that are required to deal with the hazards
- Learning the principles of the audit process
- Being able prepare and conduct effective Company and contractors HSE Audits
- Enhance your background for relevant HSE issues
- Gain necessary skills in carrying out physical site inspections
- Prepare HSE audit reports

PROGRAMME OBJECTIVES

- Understand the importance of Policies, Procedures, and the Risk Assessment Process
- Identify potential plant, process and work task related hazards and risks associated with start-up operations
- Understand the relevance and the importance of human factors, such as errors and violations, in incident causation
- Understand the audit process and relate this to Start-up Operations
- Be part of the Audit Team

WHO SHOULD ATTEND?

The Pre-Start-Up Audit training course is suitable to a wide range of professionals but will greatly benefit:

- Professionals with responsibility for managing contractors
- Those with responsibilities for plant start-up, etc.
- Production, process, maintenance, and HSE personnel
- Line-managers and senior supervisors
- Safety Team Leaders and Health & Safety Champions

TRAINING METHODOLOGY

- Delegates attending the Pre-Start-Up Audit training course will learn through active participation in sessions based on tutor led discussions and syndicate exercises. Delegates will take part in topic exercises, case studies and will be required to provide group input to the syndicate sessions.

PROGRAMME SUMMARY

- The purpose of the Pre-Start-Up Audit training course is to provide delegates with an understanding of how process safety failures can occur and how they can be prevented, in relation to Start-up Operations. Delegates will gain audit skills and knowledge to successfully analyse new and existing risk control measures.
- This training course will show delegates how they can evaluate, determine and implement effective risk control measures to prevent serious incident occurring and / or re-occurring.

PROGRAM OUTLINE

Introduction to Safety and to the Audit Process

- Simple case study (hole)
- Why are Process Start-ups different?
- Health and Safety Drivers within the organisation
- The Role of Policies and Procedures
- The Principles of Risk Assessment
- Process Safety and Personal Safety
- Case Study: Understanding the Process (fully)
- Project Health, Safety & Environmental Plans
- HSE Monitoring Plan
- Introduction to the ABC(D) of the Audit Process

Incident Mitigation and Emergency Response

- Incident Causation and the role of "Barriers"
- Checking the integrity of the "Barriers"
- Introduction to SMART objectives
- People are part of the process - Human Factors - Errors and Violations
- Case Study: Errors and Violations
- Emergency Response (part of the process)
- Case Study: Emergency Responses
- Audit your Emergency Responses and Procedures

Control of Contractors

- The role of Contractors
- Case Studies: lack of control of contractors
- Selection and Control of Contractors
- Auditing Contractors
- Quantitative audit systems
- Working with contractors and other organisations
- Permit-to-work Systems
- Introduction to pro & reactive monitoring

Reactive Monitoring and Proactive Monitoring

- Review of audit principles
- Reactive Monitoring
- Proactive Monitoring
- Designing Audit Questions and challenging the answers
- Looking at the Process and predicting failures
- Case Study (tank filling)
- Bow Ties and Barriers: points to audit

Case Studies and Review

- Case Study: Wrong tools lead to major fire during loading / unloading operations
- A disastrous Process Start up – but all the failures could be predicted
- The importance of Reactive Monitoring, Proactive Monitoring, Safety Culture, etc.
- Using the audit process and to improve safety
- A final word on "Barriers" - a review of their importance and auditing

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