ABIOSH INT'L CERTIFICATE IN PROCESS SAFETY MANAGEMENT (IPSMcert)

COURSE OVERVIEW

This course introduces the PSM architecture (written programs, roles and responsibilities, implementation including training, record keeping, and auditing). The course explores all 14 key elements (parts) of a comprehensive PSM program and how the overall architecture applies to each. Links between elements and integration with existing and sometimes overlapping current company policies (such as quality and reliability programs) are also discussed.

It provides an in-depth study of each PSM element. The course introduces each PSM element and the specific guidelines for integrating PSM element requirements into other corporate programs and evaluating program compliance throughout the implementation phase. This course also covers how to expand your PSM program to include the RBPS (risk-based process safety) elements.

It also covers every aspect of auditing from gathering data via records and interviews, keeping notes, report writing, and making recommendations. Using all rules and methods taught in class, the second day is a workshop to audit actual PSM practices in a real-time setting.

This course teaches how to lead investigations and root cause analyses using various techniques such as Causal Factor Charting, Fault Tree Analysis and Root Cause Charts. This is a "How To" course designed to teach skills.

It prepares students to evaluate existing practices versus recognized codes and standards and then to efficiently improve or develop and implement mechanical integrity (MI) program. Topics also include how to merge MI program with a reliability program.

Finally, the course teaches how to write effective step-by-step operating procedures and how to develop troubleshooting guides from PHA documentation. This is very much a "How To" course, designed to teach skills.

Case Studies – Case studies and exercises are used throughout the course to illustrate interpretations of the requirements and demonstrate ways to develop an effective PSM program, including several video based case studies.

LEARNING OUTCOMES

- Basic performance-based requirements of PSM standards
- Jargon for communicating PSM requirements to others throughout the organization
- Specific guidelines for developing written programs tailored for each PSM element
- How to avoid costly implementation mistakes

- To interpret the performance-based requirements of EPA risk management standards, as well as learn about related industry standards
- The elements of process safety that are missing from typical PSM systems, including Human Factors elements (communication, human system interface, work environment, staffing, and fitness for duty), Facility Sitting element, Project Risk Management, Senior Leadership & Accountability. Multiple options for implementing an effective need-specific program
- Specific guidelines for developing cost effective written programs tailored for each PSM element, whether for a single facility or a corporation
- Auditing fundamentals to help you structure effective PSM/RMP audits
- How to apply PSM and RMP compliance auditing to your system
- How to design audits that have dual purposes: verifying compliance with regulations and identifying weaknesses in the design and implementation of PSM/RMP programs
- How to properly document audit results for compliance and for internal purposes
- Extensive exercises and workshops are used to illustrate how to effectively perform each phase of a PSM audit
- How to meet regulatory requirements for incident investigations
- How to develop and implement a structured program
    - Designed for learning from incidents
    - Why and how to define misses
    - How to train others to recognize and report incidents
    - Includes planning for trending of data
- How to initiate and conduct an investigation
    - Establishing an effective team quickly
    - Methods for collecting different types of data, including effective interviewing skills
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- How to comply with regulatory requirements and quality control requirements for procedures
- How to perform detailed task analysis and writing step-by–step instructions

TARGET AUDIENCE

- HSE professionals

- Operations and Safety Managers
- Process/Safety/Mechanical Engineers
- Compliance Auditors
- Environmental Management and Technicians
- PSM Implementation Team Members – Anyone involved with implementation, including operators and maintenance personnel
- Operations and Maintenance Staff – senior operators, maintenance technicians, supervisors
- Process reliability staff
- Process quality control/assurance staff
- PSM Coordinators and Quality Compliance Auditors
- Quality control managers and staff

DURATION

5 Days + 1 Day for exams

DATES: 1. 3rd – 7th Nov

2. 1st – 5th Dec

COURSE FEES: N280, 000/Person

COURSE MODULES

ELEMENT1: FOUNDATIONS IN PROCESS SAFETY MANAGEMENT (PSM) (4 HOURS)

1.1. Introduction to PSM
1.1.1. Overview of PSM standards and regulations, summary, definitions, origins, goals

1.2. Introduction to Elements of PSM:
1.3. PSM programs – Developing, Implementing and Planning in brief
1.4. Overview of Key Performance Indicators (KPIs) for PSM elements in brief

ELEMENT 2: FUNDAMENTALS OF PROCESS SAFETY MANAGEMENT (12 HOURS)

2.1 Elements of PSM 1:

2.1.1. Human error basics
2.1.2. Elements missing from most PSM systems, including specific human factor aspects, management commitment & accountability, and project risk management
2.1.3. Employee participation
2.1.4. Trade secrets
2.1.5. Process safety information
2.1.6. Operating procedures

2.2. Elements of PSM 2 :

2.2.1. Hot work permit/Safe work
2.2.2. Training
2.2.3. Contractors and Contractors Management
2.3.4. Process hazard analysis
2.3.5. Management of change
2.3.6. Mechanical integrity
2.3.7. Pre-startup safety review

2.3. Elements of PSM 3

2.3.1. Emergency planning and response
2.3.2. Incident investigation
2.3.3. Compliance auditing
2.3.4. Key Performance Indicators, Leading Indicators, and Tracking
2.3.5. Summary of roles and responsibilities
2.3.6. Developing PSM programs, implementation planning

..'ELEMENT 3: AUDITING FOR PROCESS SAFETY/RISK MANAGEMENT (12-HOURS)

3.1. Scope of the audit
3.2. Audit techniques
3.2.1. Gathering data from people – interviewing
3.3. Keeping notes/records
3.4. Gathering data from records – reviewing documentation
3.5. Gathering data from field observations
3.6. The audit report
3.7. The audit process – planning the audit
3.8. Audit follow-up and tracking

ELEMENT 4: INCIDENT INVESTIGATION/ROOT CAUSE ANALYSIS (8-HOURS)

4.1. Basics of incidents and investigations
4.2. Initiating the investigation
4.3. Gathering data

4.4. Basics
4.5. Gathering data from people
4.6. Gathering data from documentation, parts, and chemicals
4.7. Analyzing data for ALL causal factors
4.8. Bridging gaps in data
4.9. Determining ALL root causes of each causal factor
4.10. Developing conclusions and recommendations
4.11. Overview of results trending
4.12. Preparing for the Case Study

ELEMENT 5: WRITING EFFECTIVE OPERATING AND MAINTENANCE PROCEDURES (6-HOURS)

5.1. What is an effective procedure?
5.1.1. Goals, general concepts, definitions
5.1.2. Overview of process for developing procedures
5.1.3. Procedure requirements: industry standards for quality and regulations for safety

5.2. Formatting the procedures

5.2.1. Step-by-step formats
5.2.2. Use of white space
5.2.3. Step numbering
5.2.4. Document control features — headers and footers
5.2.5. Introductory items — procedure titles, sections, and section titles
5.2.6. Use of graphics/figures
5.2.7. Review of Formatting rules and why each is important

5.3. Writing step-by-step instructions

5.3.1. Rules for writing the most effective instructions

5.3.2. Using command; keeping it simple; being consistent; being precise; use of references

5.4. Addressing Operating limits and deviations
5.4.1. Defining “operating limits,” “deviations,” and more
5.4.2. Identifying deviations that may occur, including errors of omission and errors of commission (for step-by-step procedures)

5.4.3. Defining procedural boundaries using conditional statements, warnings, and cautions (for step-by-step procedures)

5.5. Addressing Operating limits and deviations (for continuous mode of operation)

5.5.1. Listing the triggers for process parameters where action is required
5.5.2. Identifying the worst case and more likely consequences
5.5.3. Developing troubleshooting steps (diagnosis steps, steps to prevent excursions, steps to correct excursions)

5.6. Deciding what procedures are needed

5.7. Gathering information for a procedure
5.7.1. When/why the procedure will be performed
5.7.2. Main steps, substeps, details, hazards, precautions
5.8. Verifying, validating, and certifying procedures
5.9. Overview of managing changes to procedures
5.10 Overview of risk review of procedures

ELEMENT6: MECHANICAL INTEGRITY (8-HOURS)

6.1. Learning objectives and goals for mechanical integrity (MI)
6.1.1. Motivations for mechanical integrity
6.1.2. Regulations, standards, and interpretations
6.1.3. Relationship to Reliability programs

6.2. Designing a mechanical integrity program

6.2.1. Minimal MI program only for compliance
6.2.2. Fully integrated reliability program
6.2.3. Something in-between

6.3. Developing a mechanical integrity program 1

6.2. Equipment identification and related issues
6.2.3. List of critical equipment
6.2.4. Types of MI activities (reactive, proactive, preventive, predictive)
6.2.5. Choosing the right task type and choosing the specific task
6.2.6. Determining the right frequency for the task (condition or time dependent)

6.4. Developing a mechanical integrity program 2

6.4.1. Personnel focus
6.4.2. Procedures
6.4.3. Training

6.5. Developing a mechanical integrity program (continued)
6.5.1. Management systems required and related issues

6.5.2. Quality assurance
6.5.3. Equipment deficiency resolution
6.5.4. Root cause analysis
6.5.5. Management of change

6.6. Implementing/Maintaining a mechanical integrity program

6.6.1. Review of detailed checklist for implementing an MI/reliability system

6.6.2. Documenting and managing data/results, computer systems and other equipment files

6.7. Roles and Responsibilities for MI
6.8. Key performance indicators for MI and continual improvement of a mechanical integrity

EXAM STRUCTURE

Writing Exam (2 Hours): forms 60% of total marks. Consist of 2 Long questions and 8 short questions. Candidates to score 40% to pass

Project Writing 40%: Candidates are expected to carry out an audit of a PSM/RMP system and its processes and products:

- Determine data needs
- Gather data (interview role-players, get data from company files, etc.)
- Use techniques taught in class to determine compliance with each element of PSM Judge compliance with your PSM standard
- Identifying near misses (near hits) Using fault tree analysis to find all possible scenarios and determine the most likely one
- Identifying root causes using the "Root Cause Chart" technique
- Deciding in detail what you need your MI program to address
- Starting the development of an inspection, test, and preventive maintenance (ITPM) plan
- Identifying gaps in your quality assurance plan and identifying additional needs for procedures and training
- Identifying roles and responsibilities for your MI program
- Draft effective recommendations

Candidates are expected to score a minimum of 50% to pass. To be submitted 2 weeks after training

FOR MORE DETAILS/TRAINING ENQUIRIES & BOOKINGS

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