 <p>The leading-edged solutions lead Improvement</p>	Human Systems Corporation		
	Training Course	<i>Copyright @ May 2009</i>	Page : 1/3

Human Factor and Human Error in Plant Safety

Overview

Human error plays a significant role in contributing to many mishaps. Approximately 70%-90% of accidents under complex and high technology system are caused by human error such as Chernobyl, King Cross undergrounds fire, Challenger accidents, Tenerife runway collision, and many more. Understanding and preventing human error can improve system safety and reduce safety risk caused by human error. Understanding and preventing human error can improve system safety and reduce safety risks caused by human error. The training workshop provides key principle of human factor and human error applied in plant operations that aims to prevent human error and improve plant safety. The comprehensive training course provide a comprehensive set of tools and techniques required to prevent and reduce human errors that occurred in your plant operations. The interactive training workshop is intentionally designed for those who responsible for or concerned with the task-related activities that aims to prevent operational error, increase safety level, and reduce risks. This training workshop is targeted at various industries, not a specific one.

Objectives

The 2 days interactive training workshop will enable you to learn how to

- Understand and apply human factor and human error concept approach to prevent accidents/incidents in plant operations
- Determine key contributing factors that caused human error
- Understand the human performance and limitations
- Develop a structured approach to investigate human error
- Build an effective Plant Safety Defence against error
- Develop a proactive approach to manage human error in the plant operations
- Apply and utilize a comprehensive set of tools and techniques required to prevent and reduce human error, reduce safety risks in plant and improve plant safety


Course Outlines

1. Human Error in Plant Safety

- Safety cases of Human error contribution to many Plant accidents
- Human Error concepts (Person and Systems Approach)
- Types of Human Error
 - Skill-based, Rule-based and Knowledge-based Behavior
 - Reason Model of Unsafe Acts
 - Task-based errors
 - Core-Data

2. Human Performance and Limitations in plant safety

- Human Information Processing
- Sensory/Vision/Hearing
- Perception
- Attention
- Memory
- Decision Making
- Situation Awareness
- Response Execution
- Workload
- Stress
- Fatigue

 <p>The leading-edged solutions lead Improvement</p>	Human Systems Corporation		
	Training Course	<i>Copyright @ May 2009</i>	Page : 2/3

Human Factor and Human Error in Plant Safety

3. The SHELL Model

- Liveware : Physical Factors, Physiological Factors, Psychological Factors, Psychosocial Factors
- Liveware-Liveware
- Liveware-Software
- Liveware-Hardware
- Liveware-Environment

4. Human Performance Evaluation Process in Plant Safety

List key contributing factors to human performance problems in plant safety

- Personnel Factors
- Teamwork
- Procedures
- Human-Machine Interface (HMI)
- Communication
- Supervision
- Job and Task
- Tools and Equipments
- Working environment

5. Human Supervisory control of plant safety

- Human Errors in Control Room
- Improving human supervisory control to reduce human error

6. Human factor approach to accident analysis in plant safety

- ICAM model
- Building and inspecting safety defense against error

7. Human factor Improvement in Plant Safety

- Human Factor inspection in plant safety

8. Human Reliability assessment in plant safety

9. Hand-on exercises

10. Practical Case Study

Who should attend


Management executive, supervisor, safety engineer, risk manager, and all participants who are responsible for or concerned with the management and control of risks, loss and damaged in complex and hazardous technology

Duration

2 days

Key Points about This Course

- You will learn how to understand the application of human factor and human error concept
- You will learn how to understand the human capability and limitations and apply them to prevent human error and accidents/incidents
- You will learn how to understand and apply the application of SHELL model
- You will learn how to inspect and check your safety defence
- You will learn how to identify and classify key contributing factors to human error
- You will learn how to understand the human factor approach to accident analysis
- You will learn how to set up a structured investigation process to human error
- You will learn how to develop a systematic and proactive system to manage human error in the plant operations

 The leading-edged solutions lead Improvement	Human Systems Corporation		
	Training Course	<i>Copyright @ May 2009</i>	Page : 3/3

Human Factor and Human Error in Plant Safety

Learning Outcomes from this course

- You can understand and apply human factor and human error concept approach to prevent accidents/incidents in plant operations
- You can determine key contributing factors that caused human error
- You can understand the human performance and limitations
- You can develop a structured approach to investigate human error
- You can apply and utilize a comprehensive set of tools and techniques required to prevent and reduce human error, reduce safety risks in plant and improve plant safety
- You can develop a proactive approach to manage human error in the plant operations