

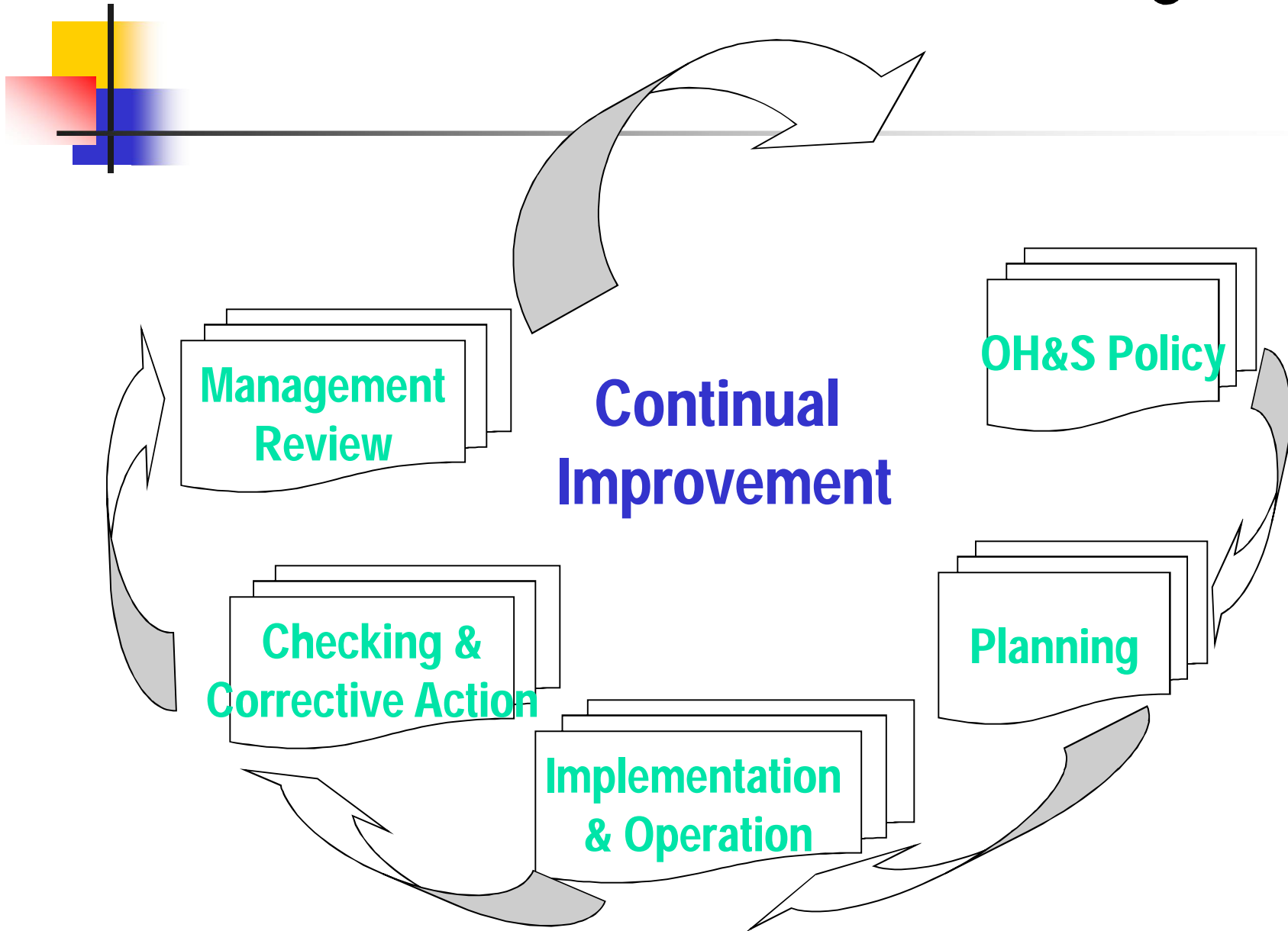


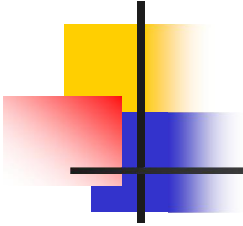
Hazards Identification and Risk Assessment

For continual improvement in
safety and towards zero Disaster
Risk Management



Elements of successful OH&S Management





OH&S Policy

- n **Clearly states overall OH&S objectives**
- n **Authorised by top management**
- n **Appropriate to nature & scale of OH&S risks**
- n **Documented, implemented, and maintained**
- n **Communicated to all employees**
- n **Available to interested parties**
- n **Reviewed periodically**



OH&S Policy Commitments

- n Improve health & safety performance*
- n Continual improvement
- n “at least” comply with current applicable
- n OH&S legislation and other requirements

**Performance: measurable results of the OH&S management system, related to the organization's control of health and safety risks, based on its OH&S policy and objectives.*



OH&S Planning

- n **Hazard identification, risk assessment, and risk control**
- n **Legal and other requirements**
- n **Objectives**
- n **OH&S management program(s)**



Hazard Identification, Risk Assessment & Risk Control

- n **Conceptually similar to environmental aspects and impacts –target of management program(s)**
- n **Much more detailed than 14001 approach**
- n **Assessment must address:**
 - n **routine and non-routine activities**
 - n **all personnel, including contractors and visitors**
 - n **facilities at the workplace, whether provided by the organization or by others**



Hazard Identification, Risk Assessment & Risk Control

- n **Methodology must be proactive**
 - n in advance of process/equipment changes
 - n allow engineering of hazard controls during design
 - n implementation of controls as change occurs
- n **Success requires strong Management of Change (MOC) procedure**



Hazard Identification, Risk Assessment & Risk Control

- n **Process overview**
 - n identification of hazards
 - n evaluation of risks under current controls
 - n evaluation of the tolerability of residual risk
 - n identification of needed additional controls
- n **People are involved**
 - n significant risks must be controlled
 - n individual behaviour is a significant factor



Hazard Identification, Risk Assessment & Risk Control

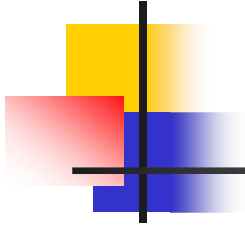
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OH&S Planning

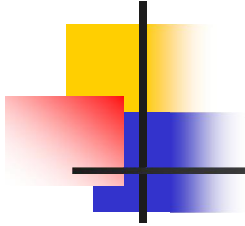






Implementation & Operation

- n **Structure and responsibilities**
- n **Training awareness and competence**
- n **Consultation and communication**
- n **Documentation**
- n **Document and data control**
- n **Operational control**
- n **Emergency preparedness and response**



Structure & Responsibilities

- n **Documented roles, responsibilities, authorities, and accountability**
- n **Management appointee responsible for implementation**
- n **Resources**
- n **Managers must demonstrate commitment to continual improvement**



Training, Awareness & Competence

- n **Ensure employee awareness and competence**
- n **Take into account differing levels of:**
 - n **Responsibility**
 - n **Ability**
 - n **Literacy**
 - n **Risk**
- n **Much of required training driven by regulation**



Consultation & Communication

- n **More internally focused than ISO 14001**
- n **Employee involvement and consultation**
 - n in development/review of policies and procedures
 - n about changes that affect workplace safety or health
 - n ensuring representation in OH&S matters
- n **Buy-in, ownership, motivation**
- n **Insights of shop floor perspective**



Documentation & Data

- n **Documentation of core elements**
 - n aids employee awareness
 - n shows how the various system relate
 - n extremely valuable during certification process
- n **Document and data control procedures**
 - n critical documents are available
 - n obsolete documents and data are removed



Operational Control

- n **Identify operations and activities where risk requires further control**
- n **Plan these to ensure that**
 - n documented procedures are developed
 - n operating criteria specify key steps and requirements
 - n procedures addressing risks related to contractor goods and services
 - n establish design procedures to reduce/eliminate source of risks



Emergency Preparedness & Response

- n **Emergency response procedures to address**
 - n **identifying potential for incidents and emergencies**
 - n **preventing and mitigating resultant illnesses and injuries**
 - n **responding to incidents and emergencies when they occur.**



Checking & Corrective Action

- n **Performance measurement and monitoring**
- n **Accidents, incidents, non-conformances and corrective and preventive action**
- n **Records and records management**
- n **OH&S management system audit**



Performance Measurement & Monitoring

- n **Monitoring the achievement of objectives**
- n **Quantitative and qualitative measures**
- n **Proactive and reactive methods**
- n **Records to facilitate corrective and preventive actions**
- n **Calibration of monitoring equipment**



Quantitative & Qualitative

- n Direct Quantitative Measures**
 - n number of lost work days following an injury**
 - n decibel levels of noise in a work area**
- n Indirect Qualitative Measures**
 - n review of inspection logs**
 - n observation of a task**
 - n interviews**



Proactive & Reactive Measures

- n **Proactive monitoring of compliance**
 - n routine basis, independent of any event
 - n monitoring may be required by regulations
 - n daily equipment checks
 - n periodic review of hot-work permits
- n **Reactive monitoring of accidents or incidents**
 - n in response to an event or trigger
 - n accident investigation
 - n monitoring in response to a complaint



Accident, Incidents, Non-conformances & Corrective and Preventive Action

- n **Handle, investigate, mitigate**
 - n **Accidents**
 - n **Incidents**
 - n **non-conformances**
- n **Corrective and preventive actions**
- n **Review action plans through risk assessment process**



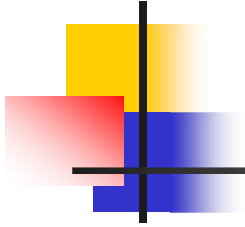
Accident, Incidents & Non-conformances

- n **Handle = immediate action**
 - n Notification
 - n emergency response
 - n recordkeeping to facilitate investigation
- n **Investigation process**
 - n team and procedures
 - n root cause analysis
- n **People are involved**
 - n human elements



Corrective and Preventive Action

- n **Correct immediate problem**
- n **Mitigate consequences**
- n **Eliminate or control root cause**
- n **Prevent recurrence**
- n **Review action plans through risk assessment process**
- n **Communicate results and monitor**



n Case study



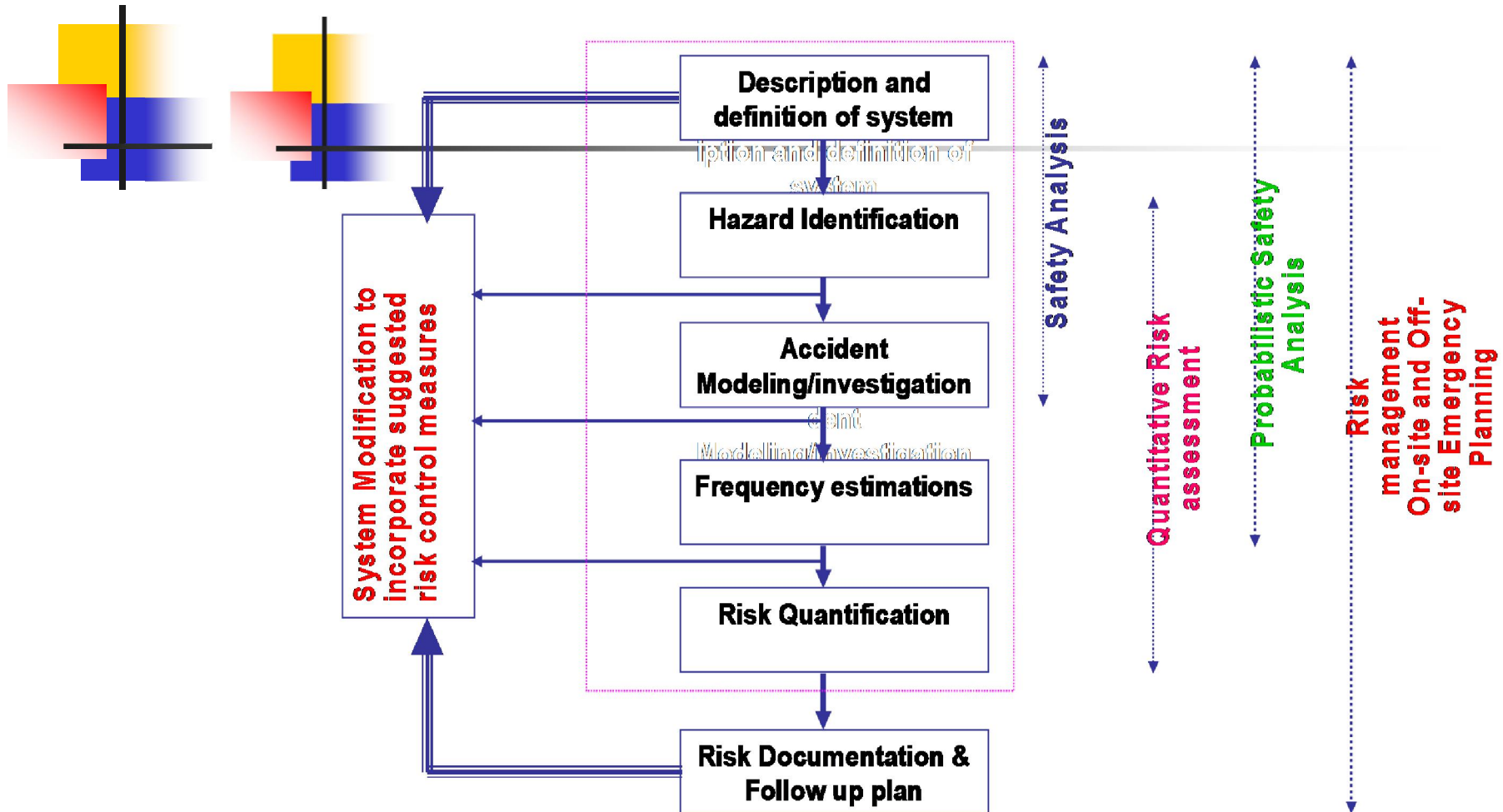
Records & Record Management

- n **Identification, maintenance, and disposition**
- n **Records must be:**
 - n **Legible**
 - n **Identifiable**
 - n **traceable to the activities involved**
 - n **easily retrievable**
 - n **protected from damage, deterioration, or loss**
 - n **held for specified and documented retention times**



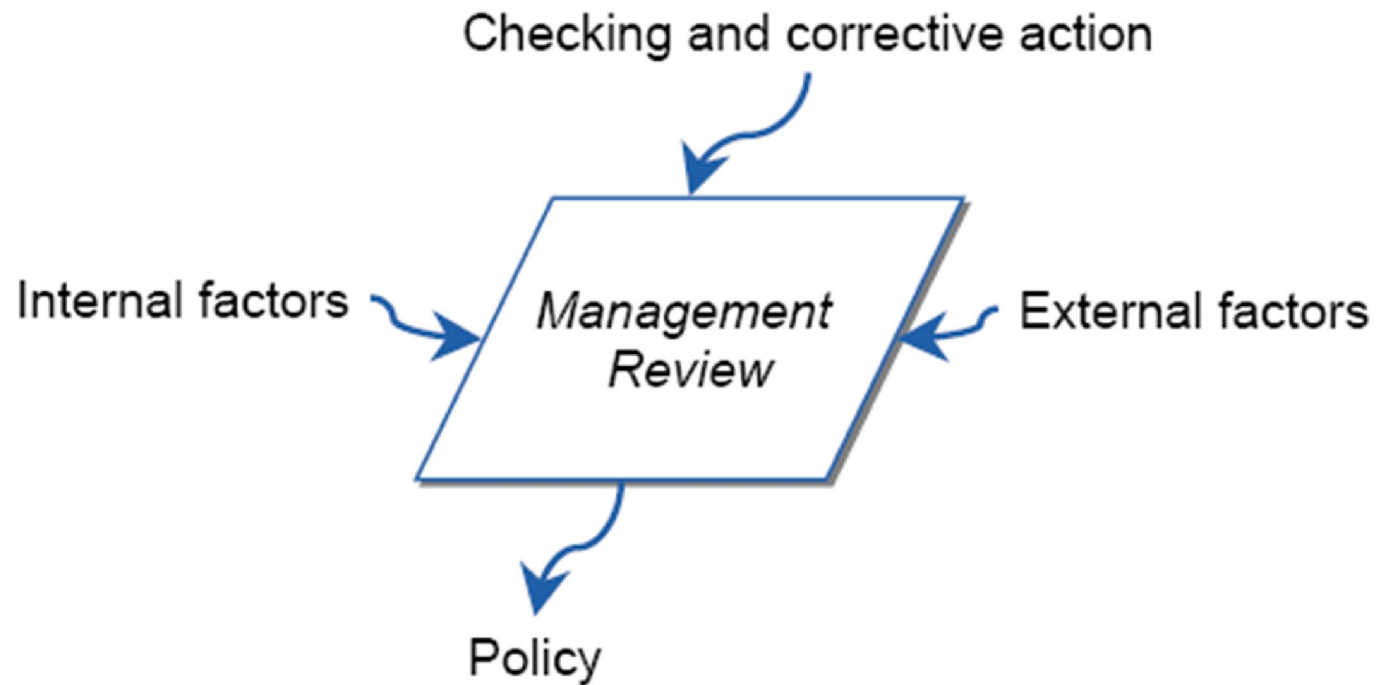
OH&S Management System Audit

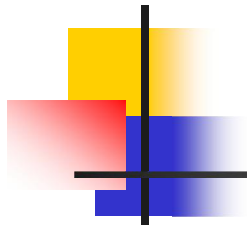
- n **Determine if OH&S-MS:**
 - n conforms with planned arrangements
 - n is properly implemented and maintained
 - n is effective in meeting policy and objectives
- n **Results provided to top management**
- n **Audit program and schedule reflect risks and previous audit results**



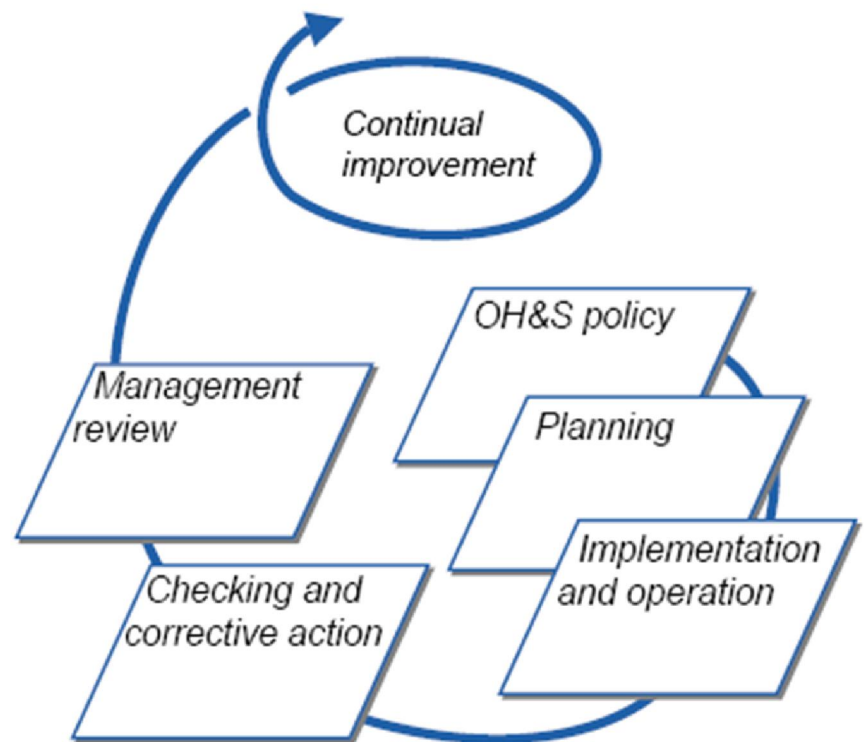


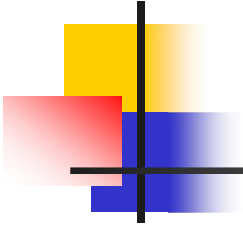
Management Review



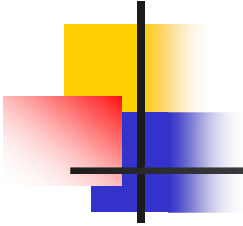


OHSAS 18001 - Occupational health and safety management system





- n Continual improvement : PI refer the papers circulated and open for discussion



n Thanks