Project Life Cycle Safety Suite

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Objectives

- Overall approach
- Define the role of SAFETY in the overall business
- Run through all phases
- Discuss optimisation of business
- Discuss about tools that can support optimisation
- Software examples
- Wrap up



Safety is not first. Safety is an integrated element of the business.

Our main scope and objective is our Project/plant, our business which has to be executed EFFECTIVELY.

THE RESULT



" Every system is producing the results it is designed for" Donald Mark Berwick

...the premise being that both the intended and unintended consequences are designed into our systems.



REVIEW PROJECT LIFE CYCLE



It should be borne in mind that reducing the risks from an existing plant ALARP may still result in a level of residual risk which is higher than that which would be achieved by reducing the risks ALARP in a similar, new plant.

Factors which could lead to this difference include (holistic approach) :

- practicability of retrofitting a measure on an existing plant,
- the extra cost of retrofitting measures compared to embedded them in a new plant,
- the risks involved in installation of the retrofitted measure; and
- the projected lifetime of the existing plant.



THE STORY (THE SEQUENSE)

Once upon a time ...



PRELIMENARY PHASE (STAGE 0)

People decided to build a new plant. They defined then the minimum safety standards to follow, determining the risk inherent to the **operation phase**, or the selection of the equipment and technology determined itself the risk to be inherited.

Specifications for main equipment, design factors, technology, etc are the result of a thorough Risk Assessment already performed by the industry, since main equipment, design philosophy etc have been assessed by manufacturers, **practice** and law.



RISK ASSESSMENT - STAGE 0





DESIGN PHASE (STAGE 1)

Developing (Detailing) the design, specific safety studies are carried out to assess and/or quantify associated risks and confirm design and design specs as well as **operational needs**.

- Hazard and Operability Studies (Hazop)
- Hazard Identification (Hazid)
- ATEX (explosive atmospheres)
- Safety Integrity level (SIL)
- Quantitative Risk Assessment (QRAs)
- Health and Safety File (HSF)
- Stress analysis
- Fire study
- Earthquake study
- Signing and labeling study



RISK ASSESSMENT - STAGE 1





ROUTINE OPERATION & MAINTENANCE (STAGE 2)

Considering:

- Safety Studies findings and recommendations;
- Operational philosophy;
- Management systems in place;
- Staffing;
- Works given out / outsourced (contractors);
- and the alike...

Then a Plant's Qualitative Risk Assessment is prepared and it is incorporated into the OPS manuals and the management procedures.



RISK ASSESSMENT - STAGE 2





ROUTINE AND NON ROUTINE OPERATION & MAINTENANCE (STAGE 3)

Based on the standard stuff, confirm / revise Plant's RA on spot for the particular:

- Systems included
- Personnel
- Environment
- Equipment
- Layout alignment
- Procedure to be followed
- Weather, timeschedule, ...; and

prepare for that work a specific RA based on the method statement and vice versa



RISK ASSESSMENT - STAGE 3





The Way WE Approach Safety

Take care of Safety totally in all aspects OR Approach Safety Holistically

The word *holistic* comes from the Greek word "Όλος" (*holos*), meaning "entire" or "all".



How WE implement Safety

Safety Management System (SMS) is a comprehensive management system designed to manage safety elements in the workplace.





How WE implement Safety

- 1. Safety Audit
- 2. SIR Software
- 3. RAM Software





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Something is MISSING...

Key Components – Key Issues Continuous Monitoring

Personnel - Safe Pass Equipment - Safe Pass MSDS – Material Safe Pass Method Statements Training Corrective Actions – NCR Log Permitting System Incidents Log Labour Inspectorate Drills Lifting Plans





MANAGEMENT FORCE Group Project LifeCycle Safety Suite Version 0.2





Why PLCS?

A project life cycle is the sequence of phases that a project goes through from its initiation to its closure. The number and sequence of the cycle are determined by the management and various other factors like needs of the organization involved in the project, the nature of the project, and its area of application. The phases have a definite start, end, and control point and are constrained by time. The project lifecycle can be defined and modified as per the needs and aspects of the organization. Even though every project has a definite start and end, the particular objectives, deliverables, and activities vary widely.



An organized way to ensure that adequate planning and procedures exists that make certain that the Safety System shall meet the requirements



The Idea

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Key Features

- Each Component <u>MODULE</u>- can be designed from scratch...
 - ✓ Can add / create a new module to satisfy the requirement,
- Can use all or selected modules,
- Built in libraries, fully customizable,
- Documentation upload,
- Can run as main platform hosting various projects,
- Customizable Alert system.



PLCS Initial Input - Modules

- Site Equipment
- Accessories
- Trainings
- MSDS
- Permit to Work register
- Fire Extinguishers
- Incidents
- Meetings
- Drills
- PPE Inspection

- Subcontractors Designated Safety Engineers Visits
- Construction Documentation (Lifting Plans & Method Statements)
- Labour Inspectorate activity
- HS Team & Third Party Action Tracking Register
- Subcontractor's Documentation Status
- Consequences Management System (penalty reg)
- Safe Pass issuance
- Personnel Specialty / Subctr's manpower
- Scaffolds



PLCS Benefits

- Active Libraries;
 - Statistical analysis;
 - Action Tracking;
 - Inspections aiding data;
 - Work Site organisation tool;
 - HS Coordination & Management Data;
 - HSP implementation documentation.



Conclusions

Software aided PSM, characteristics and objectives

- 1. Practicability
- 2. Simplicity friendly to user
- 3. Built for purpose Focus (Design for purpose)
- 4. No overlaps
- 5. Completeness
- 6. Effectiveness
- 7. Productivity
- 8. Support decision making
- 9. Culture change
- 10. Support continuous improvement





THANK YOU FOR YOUR ATTENTION

