



Success factors in Safe Maintenance

Lessons from the Good Practice Award Examples

Healthy Workplaces Summit

Workshop 2: Good Practices in Safe Maintenance

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Success Factors

- *Management commitment and safety culture in the organisation*
- *Involvement and participation of the employees*
- *A well-conducted risk assessment*
- *Preventive measures according to the prevention hierarchy*
- *Combination of preventive measures*



Success Factors 2

- *Safe work procedures and clear guidelines for maintenance work*
- *Effective and continuous communication*
- *Continuous improvement/development*
- *Safety training*
- *Maintenance included in the comprehensive health and safety management system*



➤ ***Management commitment and safety culture in the organisation***

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Example: HERACLES GENERAL CEMENT COMPANY (GR)

- Mobilisation and delegation of safety duties to line management
- Implementation of standards and good practice for each maintenance task
- Appointment of safety teams responsible for 13 key safety issues. Each team had two 'issue owners' to ensure compliance with safety rules
- During the maintenance works, the 'issue owners' monitored, registered and reported all the safety issues.



➤ *Involvement and participation of the employees*

Many enterprises include into their approach to safer maintenance participatory measures. Two examples:

TARMAC (Quarries)(UK) Training plans are discussed with the individual worker.
Safety days on site with practical exercises.

OTIS LIFT D.O.O (Elevators)(SI)

Employees are involved in the safety decision-making process, for example through quarterly meetings on safety.



➤ ***A well-conducted risk assessment***

Risk assessment is a big challenge, because just in maintenance there are many hidden risks, and the risks might change quickly during work.

- **PROTÓN ELECTRÓNICA SLU (Electrical installation) (ES)** Risk assessment in advance at every construction site - together with the client.
- **PEPSICO(Food)(IE)** More work place specific RA covering also maintenance-related tasks. The former RA were not job-specific and only addressed general hazards such as fire, explosion, working from height, etc.



➤ ***A well-conducted risk assessment***

- **SKELLEFTEÅ RÄDDNINGSTJÄNST (Fire Fighting) (SE)**

Risk of serious diseases detected by a kind of epidemiological retrospective risk assessment. Introduction of safety measures in cleaning, repair and maintenance of clothing and equipment from toxic substances after emergency services.

- **SPIE (Manufacture of refined petroleum products) (BE)**

Training on 'last minute risk analysis' (LMRA)



➤ *Preventive measures according to the prevention hierarchy (1)*

➤ *Design stage*

- **STIB-MIVB (Transportation, Maintenance of trains) BE**

Already at the planning stage, safety and health issues during maintenance were taken into account in the design of the building and in the choice of work equipment. E.g., openings and outlets on the roof and on the side of buildings substantially improve lighting, ventilation and the evacuation of heat and smoke.



➤ *Preventive measures according to the prevention hierarchy (3)*

➤ *Technical measures*

- **CARRIER KÄLTETECHNIK GMBH**
Development and implementation of a new and much safer asymmetrical leaning ladder for the maintenance of refrigeration systems in the retail and wholesale trade





➤ ***Preventive measures according to the prevention hierarchy (4)***

➤ ***Organisational measures***

- **44ENGENHARIA E COORDENAÇÃO DE SEGURANÇA, LDA. (PT)**

Involvement of all concerned enterprises and parties in a large restoration project – creation of a management and maintenance plan, information and training



- ***Preventive measures according to the prevention hierarchy (5)***
- ***Organisational measures***
 - **DRAGADOS S.A. (Construction) (ES):**
Check of the safety of all technical equipment in the central machinery pool, development of factsheets and a maintenance protocol



➤ *Combination of preventive measures (1)*

VOESTALPINE HYTRONICS GMBH AND VOESTALPINE WEICHENSYSTEME GMBH(Railway/Hydraulics)(AT)

- Fall prevention systems on the buildings
- Substituting ladders and racks with a telescopic hoisting platform
- Electronic data management for maintenance /checks and deficiency management
- An extraction and filter system was installed to protect against dust /welding fumes
- Hazardous chemicals were substituted, workers were trained in safe handling
- To improve safety when working alone, an electronic personal emergency signal system was introduced

➤ *Combination of preventive measures (2)*

SONAE (Retail trade) PT

- A computer-aided maintenance (MAC) management programme has been implemented. Work instructions have been developed, including safety rules for high-risk activities
- Procedures have been established for identifying damaged or out-of-service equipment
- 'One point lessons' (OPL) were prepared, easy to interpret visually and easy to read.
- A handbook and leaflet on workplace risks have been developed and issued to all workers





➤ ***Safe work procedures and clear guidelines for maintenance work***

Many enterprises developed detailed rules and issue comprehensive guidance documents, booklets etc.

- In GPA Awards e.g.
**GENERAL MOTORS POWER-TRAIN –
MAGYARORSZÁG KFT.
SEMCAR (SHIPYARD) FR
etc.**



➤ *Effective and continuous communication*

OTIS LIFT D.O.O (Elevators) (SI)

- Raising awareness : weekly SMS are sent to every employee in the field about important safety rules and procedures. Films about the importance of safety are shown to employees. Quarterly campaigns on safety issues. Memory cards in the form of checklists were developed for employees.



➤ *Continuous improvement/development*

TARMAC (Quarries) (UK)

- Implementation of key performance indicators for safety, health and environment. Criteria included e.g. dealing with near-hits, number of safety defects identified, managing statutory safety equipment, inspections, management and correct use of PPE.

ACTAVIS LTD (Pharmaceuticals) (MT)

- Proactive and reactive intervention

➤ *Safety training*

UPM-KYMMENE OYJ, RUUKKI OYJ & ABB OY (Manufacturing)(FI)

- Development of a training model for occupational safety orientation at shared workplaces (Occupational Safety Card training model). Representatives of both client and supplier companies working have the same basic knowledge.

OTIS LIFT D.O.O (Elevators)(SI)

- Improvements in safety skills: quarterly safety training and interactive training sessions were carried out, and first aid training was also offered.



➤ *Maintenance included in the comprehensive H&S management system*

**DONE BY ALL AWARDED AND COMMENDED
ENTERPRISES**



➤ **Cross cutting topics:**

- Involvement of contractors, subcontractors and clients in all safety development measures
- Communication on safety issues to workers at mobile work places



Conclusions

- Maintenance - growing awareness and many examples of inclusion into comprehensive management approaches
- High economic benefits due to reduced accidents and absence
- Very innovative and maintenance specific approaches from all types of enterprises and sectors
- Also examples for H&S consideration in the planning and design stage / development of new technologies and equipment
- Many examples for effective improvements by few changes and comparatively low efforts