

Proposition of Implementation EMS and CP Actions in a Textile Machinery Industry, Curitiba-PR

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INTRODUCTION

- Pollution and environmental degradation – Discussion
 - 60 / 70 – First proposed environmental control (DRUZZIAN & SANTOS, 2009)
 - 80 – First Laws (VALE, 2002)
 - 90 – Environmental consolidation and 14.000 Series(DIAS, 2009)
- Evolution of pollution and requeriments
 - Greater oversight
 - Larger market requeriments and EMS (SGA)
 - ISO 9.001, ISO 14.001, OHSAS 18.001 e AS 8.000

PURPOSE

- General Purpose
 - Prepare a proposal for implementation of an environmental management system and integrate it to the system of quality management in a textile machinery industry.

PURPOSE

- Specific purpose
 - Raising the processes that involve the production of textile machinery;
 - Diagnosing the environmental situation of the company;
 - Raise the environmental aspects and impacts;
 - Raise the legal aspects concerning the activities and impacts of the company;
 - Procedures generate components of the integrated management system;
 - Evaluate the economic feasibility of implementing the EMS and benefits of short and medium term this deployment;
 - To evaluate the improvement of business management through the environmental management system.

ENVIRONMENTAL MANAGEMENT SYSTEM

- Environmental issues as recent focus
 - Evolution of 60 to 90
 - 91 – Start the ISO
 - 96 – ISO – Guidelines to EMS (ISO 14.001)
 - 2004 – Update ISO 14.001
- The EMS(ISO 14.001)
 - Based in PDCA
 - Plan
 - Do
 - Control
 - Act
 - Continuous improvement

INDUSTRIAL IMPACT OF TEXTILE MACHINE ENTERPRISE

- Impacts
 - Excessive water consumption
 - Refrigerant oil production
 - Paint and degrease waste
 - Metal waste

STUDY AREA

- Textile Machine Industrial
 - Located in Industrial city from Curitiba
 - German enterprises
 - Target in textile machine production
 - It has QMS deployed and certified about ten years (TÜVNORD)

SAMPLING METHODS

- Research (CERVO, 2002)
 - Exploretory model
- Sampling (MARCONI & LAKATOS, 2002)
 - Document collection
 - Fields interview
 - Periodic visits
 - Process survey and environmental assessment
- Spreadsheets
 - LAIA
- Document production requeriments of the components of the EMS



RESULTS AND DISCUSSION

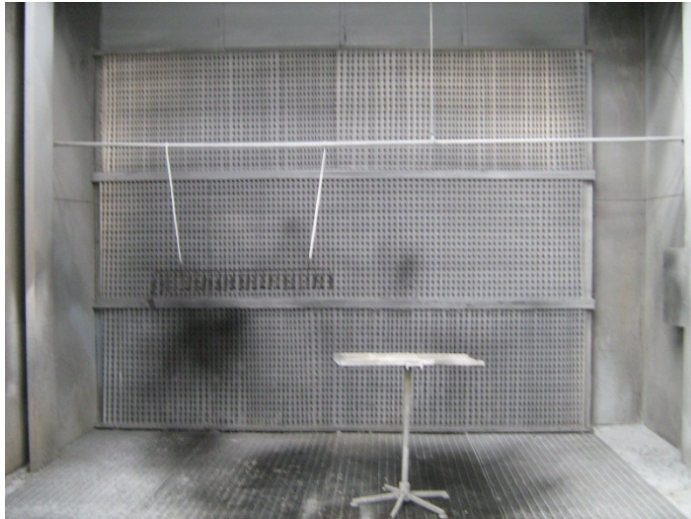
- Production process of the Enterprises
 - General Activies
 - Handling and finishing blankets(MAM)
 - Boiler
 - Machining
 - Painting
 - Warehouse
 - Internal transport
 - Assembly



RESULTS AND DISCUSSION



RESULTS E DISCUSSION



RESULTS AND DISCUSSION

- Objectives and Goals
 - I - Improvement of customer satisfaction;
 - II - Improvement of quality;
 - III - Effectiveness of the process;
 - IV - Investments in infrastructure;
 - V - Training of staff;
 - VI - Motivation;
 - VII - Reduction of environmental impacts caused by the activities,
and
 - VIII - Compliance with applicable legal requirements.



RESULTS AND DISCUSSION

Objective	Goals
I – Water consumption reduced	Reduced consumption in 20 % on 6 months.
II – Improvement of the waste segregation	Elimination of the incompatible waste mixture in 1 year.
III – Reduction on spend with waste destination	Spend reduction of 10 % in 1 year.
IV – Reduction of energy consumption	Reduction of the energy consumption of 5 % in 1 year.



RESULTS AND DISCUSSION

Cleaner Production Actions	Mean
Improvement in the destination of metal dust of rectifies	The destination was changed to the landfill by recycling and metal recovery. This eliminated the company's liabilities of this residue.
Water reuse in system	proposed a return to the company via the activated sludge treated water for use in washing parts degreasing, reducing to 25% water consumption



CONCLUSION

- Favorable environment for the deployment and integration of EMS (Quality and Environment)
- Good organization of the processes in the Industry
- Main barriers - creating procedures and environmental awareness
- Economic benefits and environmental performance

REFERENCES

- - BECKMERHAGEN, I.A.; BERG, H.P.; KARAPETROVIC,S.C.; WILLIBORN, W. O. 2003. **Integration of standardized Management Systems: Focus on safety in the nuclear industry.** *International Journal of Quality & Reliability Management.* 20, 2, 210-228.
- - BENITE, A. G. 2004. **Sistema de Gestão da Segurança e Saúde no Trabalho para Empresas Construtoras.** Dissertação – Mestrado em Engenharia. USP (Universidade de São Paulo). São Paulo-SP.
- - CERVO, A. L.; BERVIAN, P. A. 2002. **Metodologia Científica.** 5º.ed. São Paulo: Prentice Hall.
- - DIAS, R. 2009. **Gestão Ambiental: Responsabilidade Social e Sustentabilidade.** 1ª Ed. Ed. Atlas. São Paulo-SP.
- - DRUZZIAN, E.T.V.; SANTOS, R.C. 2009. **Sistema de gerenciamento ambiental (SGA): buscando uma resposta para os resíduos de laboratórios das instituições de ensino médio e profissionalizante.** Monografia – Especialização em Educação Ambiental à distância. SENAC (Serviço Nacional de Aprendizagem Comercial). Porto Alegre-RS.
- - KAPOR, C. 2007. **Aspectos e Impactos Ambientais.** Curitiba, Apostila (Curso de Especialização em Auditoria da Qualidade e Ambiental) – Universidade Tecnológica Federal do Paraná.
- - MARCONI, M. A.; LAKATOS, E. M. 2002. **Técnicas de Pesquisa.** São Paulo: Atlas.
- - MOURA, L. A. A. 2004. **Qualidade e Gestão Ambiental.** 4º.ed. São Paulo: Juarez de Oliveira.
- - PAIVA, E.L.; GAVRONSKI, I.; FERRER, G. 2008. **ISO 14.001 certification in Brazil: motivations and benefits.** *Journal of Cleaner Production.* 16. 87-94.
- - SANTOS, S. 2010. **Impacto Ambiental causado pela indústria têxtil.** Disponível em: < http://www.abepro.org.br/biblioteca/ENEGEP1997_T6410.PDF>. Acesso em: abril de 2010.
- - TURK, A.M. 2009. **The benefits associated with ISO 14.001 certification for construction firms: Turkish case.** *Journal of Cleaner Production.* 17, 559-569.
- - VALLE, C.E. 2002. **Qualidade Ambiental: ISO 14001.** 4ª Ed. Ed. SENAC. São Paulo-SP.



THANKS!!!