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

MACENO, M. C. M. *a*, VELOZO, T. G. b, CANEDO, P. L. R. c, SILVA, M. C. c

a. Universidade Federal do Paraná, Curitiba-PR
b. Universidade Tuiuti do Paraná, Curitiba-PR
c. Universidade Tecnológica Federal do Paraná, Curitiba-PR

*Corresponding author, marcell.maceno@gmail.com
INTRODUCTION

• Pollution and environmental degradation – Discussion
  o 60 / 70 – First proposed environmental control (DRUZZIAN & SANTOS, 2009)
  o 80 – First Laws (VALE, 2002)
  o 90 – Environmental consolidation and 14.000 Series (DIAS, 2009)

• Evolution of pollution and requirements
  • Greater oversight
  • Larger market requirements 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)
  - Exploratory model
- Sampling (MARCONI & LAKATOS, 2002)
  - Document collection
  - Fields interview
    - Periodic visits
    - Process survey and environmental assessment
- Spreadsheets
  - LAIA
- Document production requirements of the components of the EMS
RESULTS AND DISCUSSION

• Production process of the Enterprises
  – General Activities
  – 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

<table>
<thead>
<tr>
<th>Objective</th>
<th>Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>I – Water consumption reduced</td>
<td>Reduced consumption in 20% on 6 months.</td>
</tr>
<tr>
<td>II – Improvement of the waste segregation</td>
<td>Elimination of the incompatible waste mixture in 1 year.</td>
</tr>
<tr>
<td>III – Reduction on spend with waste destination</td>
<td>Spend reduction of 10% in 1 year.</td>
</tr>
<tr>
<td>IV – Reduction of energy consumption</td>
<td>Reduction of the energy consumption of 5% in 1 year.</td>
</tr>
</tbody>
</table>
## RESULTS AND DISCUSSION

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


THANKS!!!