

**EXAMPLE OF A GENERIC ANNUAL WASTE MINIMIZATION
CERTIFIED REPORT**

This report is an example of an annual waste minimization certified report. Subsequent reports are due by July 31 of each year.

If you have questions concerning the annual report please contact:

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For the purposes of the Mississippi Multimedia Pollution Prevention Act, certified report section, certified shall mean signed and dated by the plant owner, manager, or person responsible for compiling and producing this report, attesting that the information in the report is true "to the best of my knowledge". **A notary's signature is not necessary.**

ABC Company
EPA ID No. MSD...
Rural County, Mississippi

Types and Quantities of Waste Generated:

	<u>Baseline Year</u> <u>2002</u>	<u>2003</u>
1. Hazardous Waste:		
A. Trichloroethylene and oil from coil cleaning	208,312 lbs	143,360 lbs
B. Filters from Oil Reclaimer	5,055 lbs	3,895 lbs
C. Paint related waste from painting operation	8,845 lbs	6,359 lbs
D. Fluorescent Lamps	300 lbs	275 lbs
E. Computer Monitors	800 lbs	700 lbs
TOTAL	223,312 lbs	154,589 lbs
2. VOC Air Emissions:		
A. Trichloroethylene from coil cleaning	1,087,686 lbs	1,123,559 lbs
B. Solvent emissions from paint	504,493 lbs	353,290 lbs
C. 140 Solvent from parts cleaning	29,251 lbs	28,925 lbs
TOTAL	1,621,430 lbs	1,505,774 lbs

3. Oils and 140 solvent:		
A. Hydraulic oils and non exempt solvents from equipment leaks and parts cleaning	40,500 gal.	44,950 gal.
4. Non Contact Cooling Water:		
A. All non contact cooling water from cooling towers and heat exchangers on equipment	540,000 GPD	425,000 GPD
5. Non Hazardous Solid Waste:		
A. All normal garbage, office paper, cardboard, plastics, electronics, pallets and metals going to landfill	5,740 Cu.. Yd.	4,380 Cu. Yd.
6. Copper:		
A. Dust and chips from floor sweeping	350 lbs.	400 lbs.
7. Copper Compound:		
A. From melting copper, brazing and welding coils	2,927 lbs.	3,272 lbs.

Types and Quantities of Waste Minimized or Recycled:

The calculations used to determine an increase or reduction in waste takes into account our business increase or decrease. We had a 21.0% increase in business in 2003 over 2002. The business increase was based on man hours worked.

$$\begin{aligned}
 &2,863,215 \text{ Man hours worked in 2003} \\
 &\underline{2,367,225} \text{ Man hours worked in 2002} \\
 &495,990 \div 2,367,225 = 21.0\% \text{ increase in business in 2003 over 2002}
 \end{aligned}$$

1. Total Hazardous Waste:

Baseline year $\frac{219,212 \text{ lbs.}}{2,367,225 \text{ hrs.}} = .093 \text{ lbs. per man hour worked}$

2003 $\frac{153,614 \text{ lbs.}}{2,863,215 \text{ hrs.}} = .054 \text{ lbs. per man hour worked}$

$$.093 - .054 = .039 \div .093 = \underline{41.9\% \text{ Reduction in 2003 Waste}}$$

2. VOC Air Emissions:

Baseline year $\frac{1,621,430 \text{ lbs.}}{2,367,225 \text{ hrs.}} = .685 \text{ lbs. per man hour worked}$

2003 $\frac{1,505,774 \text{ lbs.}}{2,863,215 \text{ hrs.}} = .526 \text{ lbs. per man hour worked}$

$$.685 - .526 = .159 \div .685 = \underline{23.2\% \text{ Reduction in 2003 Emissions}}$$

3. Oils and 140 Solvent:

Baseline year $\frac{40,500 \text{ gal.}}{2,367,225 \text{ hrs.}} = .017 \text{ gal per man hour worked}$

2003 $\frac{44,950 \text{ lbs.}}{2,863,215 \text{ hrs.}} = .016 \text{ gal per man hour worked}$

$$.017 - .016 = .001 \div .017 = \underline{5.9\% \text{ Reduction in 2003 Waste}}$$

4. Non Contact Cooling Water:

Baseline Year $\frac{540,000 \text{ GPD}}{2,367,225 \text{ hrs}}$ per man hour worked = .228 GPD per hour worked

2003 $\frac{425,000 \text{ GPD}}{2,863,212 \text{ hrs}}$ = .148 GPD per man hour worked

$.228 - .148 = .080 + .228 = \underline{35.1\% \text{ Reduction in Water}}$

5. Non Hazardous Solid Waste:

Baseline year $\frac{5,740 \text{ Cu. Yd.}}{2,367,225 \text{ hrs.}}$ = .00242 Cu. Yd. per man hour worked

2003 $\frac{4,380 \text{ Cu. Yd.}}{2,863,212 \text{ hrs.}}$ = .00153 Cu. Yd. per man hour worked

$.00242 - .00153 = .00089 + .00242 = \underline{36.8\% \text{ Reduction in 2003}}$

6. Cooper:

Baseline year $\frac{350 \text{ lbs.}}{2,367,225 \text{ hrs.}}$ = .000148 lbs. per man hour worked

2003 $\frac{400 \text{ lbs.}}{2,863,212 \text{ hrs.}}$ = .000140 lbs. per man hour worked

$.000148 - .000140 = .000008 = \underline{5.4\% \text{ Reduction in 2003}}$

7. Copper Compound:

Baseline year $\frac{2,927 \text{ lbs.}}{2,367,225 \text{ hrs.}}$ = .00124 lbs. per man hour worked

2003 $\frac{3,272 \text{ lbs.}}{2,863,212 \text{ hrs.}}$ = .00114 lbs. per man hour worked

$.00124 - .00114 = .00010 = \underline{8.1\% \text{ Reduction in 2003}}$

Summary Explaining Waste Generation, Goals, successes and Impediments:

1. Total Hazardous Waste
 - A. Trichloroethylene and Oil
A reduction in TCE and oil from coil cleaning equipment was realized by operating the reclaimer in a more efficient manner and more hours which allowed us to remove TCE from the oil. After this process the TCE can go back into the cleaning equipment for reuse and the coil can also be reused.
 - B. Filters From Oil Reclaimer:
We had an increase in pounds of filters disposed of due to operating the reclaimer more hours. The additional operating hours were necessary in order to reduce the quantity of TCE and oil being disposed of.
 - C. Paint Related Waste:
A reduction was realized in our paint area by doing a better job of operating the equipment and using less solvents to clean up spray equipment.
 - D. Fluorescent Lamps:
A reduction was realized by switching off lights at night to save energy and extending lamp life. We also switched to new T-8 lamps which are low in mercury and use less energy.
 - E. Rechargeable Batteries:
We initiated a collection program for lithium-ion, nickel-cadmium and nickel-metal hydride batteries.
 - F. Goals:

Our goal was to reduce total hazardous waste by 10% in 2003 and 25% by 2008 or before. We were able to reduce our hazardous waste 41.9% in 2003. New goals will be set for 2004 because we want to further reduce our hazardous waste.

- G. Impediments:
Impediments to reducing hazardous waste was getting approval and commitments from everyone to operate the equipment as many hours as necessary and reclaim materials to meet quality standards. By doing this, materials can be reused rather than disposing of as a hazardous waste.

2. VOC Air Emissions:

- A. Trichloroethylene From Coil Cleaning:
We had an increase in the pounds of TCE used due to increase in business. We are continuing to look for ways to reduce or eliminate these air emissions.
- B. Solvent Emissions From Paint Operations:
A reduction in paint related solvents was accomplished by replacing some of our solvent based paints with water waste. We are currently experimenting with other water base paints and plan to replace more of our operations with water base paint.
- C. 140 Solvent From Parts Cleaning:
A small overall reduction was accomplished by purchasing a few new parts washers. Employees are learning to use solvent longer than in the past. Our plans for 2004 are to purchase more parts washers and further reduce this waste stream.
- D. Goals:
Our goal was to reduce total VOC emissions by 10% in 2003 and 25% by 2008 or before. We were able to reduce our total VOC emissions by 23.2% in 2003. We have reduced our TCE emissions over the past few years and don't know if we can reduce them; anymore until we find a material to replace TCE. New goals will be set in 2004 to further reduce paint related solvents and 140 Solvents.
- E. Impediments:
The current impediment to reducing TCE is to find a suitable replacement. One impediment to reducing paint related solvents is to find a water base paint that will paint in our automatic paint line which we have not been able to do to date.

3. Oils and 140 Solvent:

- A. A very small reduction in hydraulic oil and 140 solvent was realized by having maintenance and production personnel work together to report and repair leaks in equipment as soon as possible rather than continuing to operate equipment with leaks. Purchasing and using new parts washers reduced the 140 solvent.
- B. Goals:
Our goal was to reduce oils and 140 solvent by 5% in 2003 and 25% by 2008 or before. A 5.9% reduction was achieved in 2003. New goals will be set in 2004 to further reduce this waste stream.
- C. Impediments:
The impediment to reducing this waste stream has been a lack of being able to develop a better program to prevent leaks in equipment and to repair these leaks as soon as possible.

4. Non Contact Cooling Water:

- A. A reduction was achieved by replacing some water cooled air compressors with air cooled compressors and properly utilizing our cooling towers.
- B. Goals:
Our goal was to reduce non contact cooling water by 10% in 2003 and 25% by 2008 or before. A 21.3% reduction was achieved in 2003. New goals will be set in 2004 to further reduce this waste stream by purchasing and installing automatic shut off valves to turn water off when equipment is not operating.
- C. Impediments:
A common impediment to reducing this waste stream is making sure manual valves are closed when equipment is not operating.

5. Non Hazardous Solid Waste:

- A. An overall reduction in the quantity of landfill waste was realized by increasing our corrugated

containers recycling program to cover more areas of the facility. We have been bailing corrugated containers for several years. We were able to reduce wood pallets by contacting a pallet recycler and also by letting people pick up pallets that they could use. A small reduction was achieved in office paper by having everyone review the reports they receive and being able to eliminate some reports, and prints on both sides of the paper. Metal scrap is collected in a drop-off container supplied by a scrap metal recycler. Scrap plastic is being collected and sold to a plastic broker. Finally, a pressure gauge was installed on our 30 yard garbage compactor so we would know that it was operating at the pressure the compactor was designed. Semi-annual maintenance has reduced garbage pulls by 15% and saving us money.

- B. **Goals:**
We set a goal to reduce all non hazardous waste being disposed of in the landfill by 10% for 2003 and 25% by 2008 or before. We were able to reduce this waste by 36.8% in 2003. New goals will be set in 2004 to further reduce this waste by finding a market for wood pallets, setting up a paper recycling program, and recycling plastic shrink wrap.
- C. The impediments we have is the lack of markets for waste wood products and the lack of our suppliers working with us by taking back our old skids. We have looked at returnable type containers but have not had much luck with the project due to freight cost to return containers and our customers not agreeing to share in this cost.

6. **Cooper:**
No goal has been set to reduce this waste because we have not found a way to recover every saw chip and particles of copper from the floor.

7. **Copper Compound:**
No goal has been set to reduce this because we are not aware of how to reduce fumes from melting and brazing copper.

I certify that this report was prepared under my direction in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Signature	Date
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Printed Name	Title
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*****End of example *****